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Fire Blight Launches Spring Offensive

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Pears, apples, and other common plants are susceptible to fire blight, a bacterial disease.

SUMMARY

Fire blight affects many commonly grown edible and landscape plants, primarily in the Rose family. Methods for managing the disease include selecting resistant varieties, keeping plants healthy, and good garden sanitation. Sprays can help prevent further outbreaks in previously affected yards but are not cures.

Q: What can I do now to lessen fire blight damage on my pear trees this spring?

A: Scorched pears clinging to lifeless limbs, and blackened, shriveled leaves on crook-shaped terminal branches signal the aftermath of an infection by *Erwinia amylovora*, the bacterium which causes fire blight. Hosts most vulnerable to the ravages of this pathogen are European and Asian pears, apples, quince, crabapple, loquat, serviceberry, juneberry, hawthorn, spirea, toyon, mountain ash and pyracantha. Entire trees or shrubs can become infected and destroyed by fire blight.

How the Infection Spreads:

The bacterium overwinters in cankers which are sunken in the bark of infested branches. During our warm and wet spring weather, infection can spread from bacteria-filled brownish droplets that ooze from these cankers to new, succulent growth. Flowers are the point of entry to the insect-spread infection which spreads throughout twigs and ter-

minal branches. Wind-blown raindrops can also spread infection. Newly-infected wood takes on a reddish-brown color and blackens when the tissue dies.

Managing Fire Blight:

Fire blight management methods include the selection of resistant cultivars, keeping plants healthy without encouraging vigorous growth, good sanitation and the frequent application of fungicide during flowering.

Choose tolerant varieties. Many pear tree varieties, including Aristocrat, are very susceptible to fire blight. Shinko, Bradford, Capitol and Red Spire are more tolerant. Susceptible apple varieties are Fuji, Gala, Golden Delicious, Granny Smith, Gravenstein, Jonathan, Mutsu, Pink Lady, and Yellow Newtown. Plant early blooming varieties; trees that bloom late or repeatedly are often severely damaged by fire blight.

Cultural practices play an important role in managing fire blight. Avoid unrestrained application of nitrogen,



“Plant early blooming varieties of pears and apples. Trees that bloom late or throughout the season are often severely damaged by fire blight.”

over-irrigation, especially during bloom, and excessive pruning. These practices produce plants with vigorous, new growth which favors development of the disease.

Sanitation practices include the removal of all infected wood before bloom. Watch for new infections and dispose of all prunings from the garden or orchard. Continue this practice after the bloom period is over. Don't use this contaminated material in compost. Snip off emerging root suckers as they are another point of entry for the bacterium. In the fall, remove and discard branches whose foliage turns red, and in winter, those with dead leaves and fruit. In spring, excise oozing cankers.

A general guideline for **removing diseased wood** is to cut branches 8" to 12" below cankers. In May or June, when the infection is spreading rapidly, cuts may need to be made further past the point of infection. Disinfect all cutting tools by spraying or by soaking for one or more minutes in a solution of 1 part bleach to 5 parts water. Do this after each cut and after the pruning process. Dry and oil tools after use. Keep in mind that 100% control is impossible.

Spring sprays of pears include copper fungicides or a weak Bordeaux mixture. These sprays can eliminate the incidence of new infections but will not eradicate

existing ones. Start the first spray application on March 1 or after bloom begins when the first average daily temperature exceeds 60° F. Repeat applications every 4 or 5 days and immediately after rain or hail. Copper can russet fruit so do not apply copper to Anjou or Comice Pears or to Granny Smith or Golden Delicious apples after bloom.

Summary:

Selection of disease-resistant varieties, adequate irrigation, pruning and fertilization, careful monitoring for signs of infection, removal of infected wood and fungicide application can slow the spread and minimize the damage of fire blight in gardens and orchards throughout Contra Costa County.

For More Information:

You can obtain more information at: <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7414.html>



Fire blight affected branch. Photo: Jack Kelly Clark, Courtesy UC Statewide IPM Program. © Regents of the University of California.