



Arkansas Plant Health Clinic Newsletter

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Pear

In a few weeks, the ornamental pears will be blooming. It's time to start thinking of Fire Blight control. Cultivars of ornamental pears highly susceptible to Fire Blight, caused by the bacterium *Erwinia amylovora*, include Aristocrat, Autumn Blaze, Capital, Korean Sun, and Redspire, with Bradford being "moderately" resistant. *E. amylovora* attacks all members of the rose family except for the stone fruits. It attacks apples, blackberries, cotoneaster, crabapples, hawthorn, pears, photinia, pyracantha, quince, raspberries, roses, and spirea. Twig and branch cankers become active with warm, wet weather in the spring. The infected tissue begins to ooze bacterial slime that attracts bees. The bees carry the bacteria from bloom to bloom and from tree to tree. Bloom clusters wilt and die a few weeks after infection. Infection spreads down the twig and can infect a main branch. Twig and branch cankers begin as water-soaked areas, and then turn dark brown or black. The bark covering older cankers usually becomes sunken and cracked. The disease can kill blossoms, leaves, twigs, limbs, and occasionally, the entire tree. Infected petioles and young shoots form a typical shepherd's crook, brown colored in

apples, and black in pears. The dead foliage remains on the tree. Fire Blight is among the most difficult of diseases to control. The most effective control is planting resistant cultivars. An ornamental flowering pear with excellent resistance is *Pyrus ussuriensis* 'Prairie Gem.' Resistant apples are Haralson, Prima, Priscilla, Red Delicious, Redfree, and Winesap. Golden Delicious, Liberty, and Stayman cultivars are moderately resistant. The most susceptible apples include Braeburn, Fuji, Gala, Idared, Jonagold, Jonathan, Lodi, Pink Lady, Rome, Tydeman's Red, and York. Susceptible fruiting pears are Bartlett, Bosc, Clapp's Favorite, and D'Anjou, while Magness, Maxine, Moonglow, and Seckel are highly resistant. Most Asian pears are moderately to highly susceptible with the exceptions of Seuri, Shinko and Singo pears. Susceptible trees should be sprayed at green tip, at 5% bloom, and at 50% bloom with Agri-strep, Agri-mycin, or a copper fungicide such as Kocide. All dead tissue should be pruned out 10-12 inches (25-30cm) below the damage. Cutting tools should be dipped between cuts in a 10% bleach solution, (nine cups water to one cup bleach). Recommendations are slightly different for brambles as there are no registered products specifically for Fire Blight. Rely on sanitation.



Pear Fire Blight-*Erwinia amylovora*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Blackberry Fire Blight-*Erwinia amylovora*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Apple Fire Blight-*Erwinia amylovora*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Pyracantha Fire Blight-*Erwinia amylovora*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Photinia Fire Blight-*Erwinia amylovora*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Leaves, shucks, green twigs and stems, and nuts may all be infected. The severity of the damage is dependent on weather and genetic susceptibility. Leaves become infected in the spring as they are emerging and are susceptible until they are fully expanded. Leaf lesions are usually small (1-5mm or 3/64-13/64"), olive- to black-colored spots with a velvety to rough appearance. Lesions may grow together and form large, darkened areas on the leaf. Lesions occur on any surface of the leaf but are more common on the lower surface. Vein and petiole lesions are elongated and parallel to the long axis. Shuck infection is responsible for most of the damage to the nut crop. Nuts can be infected at any point of development. Lesions on shucks are 2-8mm (5/64-5/16") in diameter and circular. A severe infection can cause termination of fruit development and early drop. The best strategy for control of Pecan Scab is to plant resistant cultivars in addition to a fungicide program. Spraying should begin at bud burst in the spring. Abound FL, Adament 50WG, Enable 2F, Headline SC, Orbit 45WP, Pristine, PropiMax EC, Quadris Top, Quash, Quilt, Quilt Xcel, Sovran, Stratego, Tilt, Topsin M 70WDG, and Topsin M 70 WP are all labeled for control of Pecan Scab.

Pecan

Pecan Scab, caused by the fungus *Fusicladium effusum* (previously known as *Cladosporium caryigenum*), is the most serious disease of pecans in the southwestern United States.

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Pecan Scab-*Fusicladium effusum*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Pecan Scab-*Fusicladium effusum*



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This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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