



Arkansas Plant Health Clinic Newsletter

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Pear and Apple

It's nearly time to spray pears and apples for Fire Blight. Bloom is the only effective time to spray for this serious bacterial disease. Fire Blight, caused by *Erwinia amylovora*, attacks all members of the rose family, including pears, apples, crabapples, quince, cotoneaster, photinia, raspberries, blackberries, hawthorn, and roses. Twig and branch cankers become active with warm, wet weather in the spring. The infected tissue begins to ooze bacterial slime that attracts insects. The bacterium is spread by pollinators such as bees that 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. By far the most effective control is planting resistant

cultivars. The most susceptible apples include York, Rome, Jonathan, Jonagold, Idared, Tydeman's Red, Gala, Fuji, Braeburn, Lodi, and Pink Lady. Stayman, Liberty, and Golden Delicious cultivars are moderately resistant. Red Delicious, Winesap, Haralson, Prima, Priscella, and Redfree apples are highly resistant. Susceptible pears are Bartlett, Bosc, D'Anjou, and Clapp's Favorite, while Magness, Moonglow, Maxine, 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 below the damage. Cutting tools should be dipped between cuts in a 10% bleach solution, (nine cups water to one cup bleach) or in 70% alcohol.

Pear Fire Blight-*Erwinia amylovora*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

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Pear 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

Rose 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

Pecan

Phytophthora Shuck and Kernel Rot, caused by *Phytophthora cactorum*, is a late season disease of pecan, commonly occurring between August and October. Infection usually starts at the stem end of the pecan fruit and progresses to encompass the entire shuck within 4 to 6 days. A distinct border develops between dark brown rotted tissue and healthy green tissue during rotting of the shucks. Affected shucks become flaccid and moist, and then dry and stick tightly to the shell within two to three weeks after the symptoms appear. Whitish-gray mycelium appears on the dead shucks 2-3 days after the onset of cool, wet weather. The kernel turns dark brown and rots. Shuck and Kernel Rot is more likely to occur in mature orchards with a dense canopy and in soil that accumulates excess moisture after rain or irrigation. The fungicide Super Tin may have some effectiveness against Shuck and Kernel

Rot if applied before the disease reaches epidemic proportions.

Pecan Shuck and Kernel Rot-*Phytophthora cactorum*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Rose

The question the clinic staff is asked most often at garden club and Master Gardener classes is one concerning the problem of Black Spot disease on roses. This is the most persistent and frustrating disease associated with growing roses. Susceptibility to Black Spot, caused by *Diplocarpon rosae*, was first introduced into the genome of modern roses by crossing the old China roses with European roses. Prior to that time, yellow was unknown in European and American roses. Unfortunately, the gene for yellow coloring in roses was strongly linked to susceptibility to Black Spot. Symptoms are circular to irregularly shaped black spots with feathery



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edges. The leaf tissue surrounding the spots turns yellow, eventually causing infected leaves to fall from the plant prematurely. Roses will replace the fallen leaves, but repeated defoliation weakens the plant as well as being unsightly. There are some excellent cultivars with resistance to Black Spot. It is, however, unfortunate that many with good resistance to the disease lack the wonderful fragrance commonly associated with roses. For those unable to locate cultivars with both disease resistance and good scent, Black Spot can be managed with a good spray program coupled with cultural controls. Overhead irrigation should be avoided if possible. If overhead irrigation is used, it should be done in the morning so foliage can dry quickly. Susceptible roses should be sprayed with a rose fungicide as soon as they leaf out in the spring and then every 7-10 days, especially after a rain. For those, who dislike spraying, a systemic such as Bio Advanced Disease Control for Roses, Flower, & Shrubs is available.

Rose Black Spot-*Diplocarpon rosae*

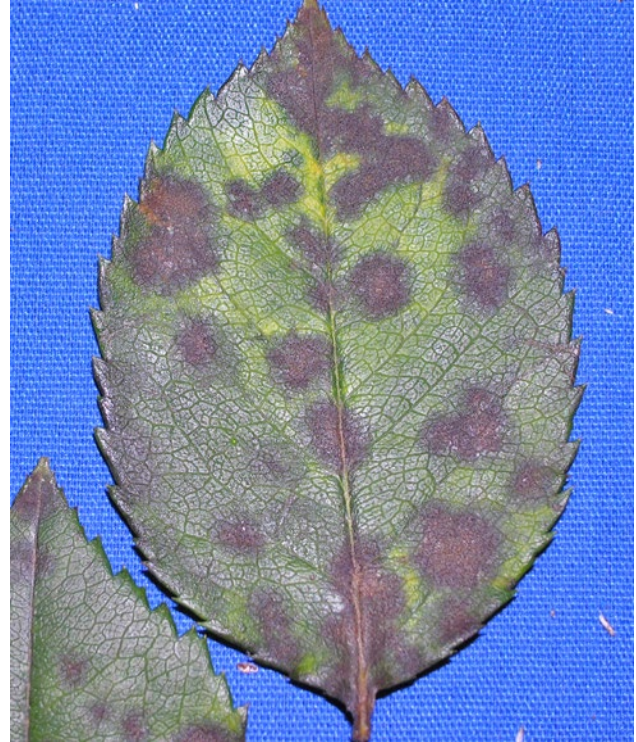


Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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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