



Arkansas Plant Health Clinic Newsletter

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Plum/Cherry

Black Knot, caused by the fungus *Apiosporina morbosa* (*Dibotryon morbosum*), attacks stone fruits including plums, prunes, sour cherries, sweet cherries. In extremely rare cases, Black Knot has been found on peach. Black woody galls appear on the stems and branches. Badly infected trees may suffer extensive dieback of girdled limbs and stunting of growth beyond the knots. This can cause major yield loss. The knots begin as small, light brown swellings, generally located at the base of the leaf petiole or on the fruit spur. These appear during the summer and the first year after infection. Young knots have an olive-green color, but later become hard, brittle, and black in color. The knots are often asymmetrical, protruding more on one side of the affected branch than the other. Control starts with good sanitation. All visible knots should be pruned out before new growth starts in the spring. Pruning cuts should be made at least 6-8 inches (15-20 cm) below the lowest part of the knot. Knots on large main branches and trunks may be cut out with a knife or chisel, including an inch (2.5 cm) of healthy bark around the knot. Avoid the purchase of plants showing knots or abnormal swellings on the twigs and branches. Burn, bury, or

otherwise remove all clippings from the property. Captan, Mancozeb, Topsin M, or fungicides containing chlorothalonil are helpful in controlling Black Knot if the cultural controls are also practiced. Apply the first spray in the spring just as green tissue begins to appear. Spray again just before and after bloom. Spray at 2-week intervals until new growth stops. Lime-sulfur sprayed during the dormant season is also helpful. Wild cherries and plums within 600 feet (185 m) of the orchard should be removed, if possible, to prevent spores blowing into the orchard and causing new infections. Some Plum cultivars are resistant to Black Knot. The cultivars Bluefre, Damson, Shropshire, and Stanley are considered highly susceptible; Bradshaw, Early Italian, Fellenburg, Methley, and Milton are moderately susceptible; Formosa, Santa Rose, and Shiro are slightly susceptible; and President is considered highly resistant. In general, Japanese varieties are less susceptible than most American varieties.

Plum Black Knot-*Apiosporina morbosa*



Photo by Keri Welch, University of Arkansas Cooperative Extension

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Plum Black Knot-*Apiosporina morbosus*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Plum Black Knot-*Apiosporina morbosus*



Photo by Steve Kelly, University of Arkansas Cooperative Extension

Pear/Apple

Ornamental pears and some of the early fruiting pears and apples are blooming. Now is the time to spray for Fire Blight. Cultivars of ornamental pears highly susceptible to Fire Blight, caused by the bacterium *Erwinia amylovora*, include Aristocrat, Autumn Blaze, Capital, Fauriei, and Redspire, with Bradford being "moderately" resistant. Fire Blight attacks all members of the rose family, except for the stone fruits, including apples, blackberries, cotoneaster, crabapples, hawthorn, pears, photinia, pyracantha, quince, raspberries, roses, and spirea. 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



Sherrie Smith
Ricky Corder

effective control is planting resistant cultivars. An ornamental flowering pear with excellent resistance is *Pyrus ussuriensis* 'Prairie Gem.' Resistant apples are Haralson, Liberty, Prima, Priscilla, Red Delicious, Redfree, and Winesap. The most susceptible apples include Braeburn, Fuji, Gala, Idared, Jonagold, Jonathan, Liberty, Lodi, Rome, Tydeman's Red, and York. Stayman and Golden Delicious cultivars are moderately resistant. 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 (25-30 cm) 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.

Raspberry 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

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Pear Fire Blight-*Erwinia amylovora*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Turf

Ground Pearls, *Margarodes* spp., are a type of scale insect found in the soil that feed on the roots of turf. Like other scale insects, they are sap feeders. They prefer Centipedegrass, but are also found on Bahiagrass, Bermuda, Carpetgrass, St. Augustine, and Zoysia. They are often associated with low pH soils. Symptoms include circular to irregular areas of sickly looking, thin turf. The grass yellows, then turns brown and dies, especially in hot, dry weather. Adult females have pinkish sac-like bodies, about 1.6 mm (1/16") long, with well-developed front legs and shorter second and

third legs. Males are tiny white to pinkish gnat-like insects. Mature females emerge from their overwintering cysts in late spring and crawl to the soil surface where they mate with the tiny, winged males. Females can also reproduce without mating. Once they have mated, the females dig back into the soil where they lay a cluster of 20 to 100 eggs in a mass of waxy strands. The eggs hatch into crawlers. The crawlers attach themselves to grass roots and begin to cover themselves with a protective coat of yellowish to light purple wax, giving them their characteristic pearl shape. This waxy coating, unfortunately, makes them impervious to most insecticide applications. Insecticidal applications are ineffective and therefore not recommended. Removal of the soil and existing turf is only successful when at least a foot (30 cm) of the soil is removed, which is impractical for most homeowners. Healthy turf can tolerate some levels of infestation. Damage can be minimized by proper pH, fertilization, mowing height, and watering during dry periods.

Ground Pearls-*Margarodes* spp.



Photo by Ricky Corder, University of Arkansas Cooperative Extension



Ground Pearls-*Margarodes* spp.



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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