



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.

Plum/Cherry

Black knot caused by the fungus *Apiosporina morbosa* (*Dibotryon morbosum*) attacks stone fruits including plums, prunes, sweet cherries, and sour 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 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 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 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. Mancozeb, Captan, Topsin M, or fungicides containing chlorothalonil are helpful in controlling Black Knot if the cultural controls are also practiced. Apply 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 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 Stanley, Damson, Bluefree, and Shropshire are considered highly susceptible; Fellenburg, Methley, Milton, Bradshaw, and Early Italian are moderately susceptible; Formosa, Shiro, and Santa Rose are slightly susceptible; and President is

considered highly resistant. In general, Japanese varieties are less susceptible than most American varieties.

Black knot of Plum- *Apiosporina morbosa*



Steve Kelly University of Arkansas Cooperative Extension

Black knot of Plum- *Apiosporina morbosa*



Keri Welch University of Arkansas Cooperative Extension



Black knot of Plum- *Apiosporina morbosa*



Sherrie Smith 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, with the exception of the stone fruits, including pears, apples, crabapples, quince, cotoneaster, pyracantha, photinia, raspberries, blackberries, hawthorn, spirea, and roses. 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 Red Delicious, Winesap, Haralson, Liberty, Prima, Priscella, and Redfree. The most susceptible apples include York, Rome, Jonathan, Jonagold, Idared, Tydeman’s Red, Gala, Fuji, Braeburn, Lodi and Liberty. Stayman and Golden Delicious cultivars are moderately resistant. Susceptible fruiting 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). Recommendations are slightly different for brambles, as there are no registered products specifically for Fire Blight. Rely on sanitation.



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CLINIC NEWS

Issue 2-March 4, 2016

Fire blight of pear- *Erwinia amylovora*



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Fire blight of apple- *Erwinia amylovora*



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Fire blight of raspberry- *Erwinia amylovora*



Sherrie Smith University of Arkansas Cooperative Extension

Turf

Groundpearls, *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, carpetgrass, St. Augustine, Zoysia, and Bermuda. They are often associated with low pH soils. Symptoms are 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



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bodies, about 1.6mm 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 (they 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 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.

Groundpearls- *Margarodes* spp.



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Groundpearls- *Margarodes* spp.



Ricky Corder University of Arkansas Cooperative Extension

Request for help from Dr. Robbins:

Root knot nematode populations are needed for our Arkansas species study. I am a nematologist in the department of Plant Pathology in Fayetteville. My student and I are trying to amass populations of as many species of Root knot nematode (*Meloidogyne* sp.) as possible for species identification using molecular techniques. At present no root knot species in Arkansas have been identified using molecular technology. We are interested in receiving populations from home gardens, shrubs, flowers, trees and grasses. For samples we need about a pint of soil and feeder roots in a sealed plastic bag that is plainly identified by plant host, location (City County, physical address, collector and date of collection). Please send samples to us at the follow address:

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