DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Sherrie Smith

SPDN
Southern Plant Diagnostic Network

Department of Plant Pathology

PLANT HEALTH

CLINIC NEWS

Issue 1, February 28, 2017

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.

Cauliflower

Bacterial Soft Rot is one of the most important diseases of Chinese cabbage, pak choi, white cabbage, cauliflower, broccoli, and radish. Under favorable environmental conditions, all soft fruits and vegetables are susceptible. The causal agent of Bacterial Soft Rot of brassica vegetables is primarily either *Erwinia carotovora* var. *carotovora*, or *Pseudomonas marginalis* pv. *marginalis*. Mixed infections are not uncommon. Damage may occur in the field or in storage, but is more of a problem in stored vegetables. On Cauliflower, infections of the curd begin as small, yellow or brown water-soaked spots. The discolored areas spread rapidly under favorable conditions to form extensive, slimy, discolored patches on the curd. Cracks may develop and bacterial exudates may cause the surface of the curd to turn gray or dark brown when exposed to the air. There is an extremely unpleasant odor associated with bacterial soft rot. Soft rot of stems is commonly known as Hollow stalk and occurs frequently in Collards and Broccoli. Conditions conducive for disease development are warm, humid weather. Prolonged periods of rain under these conditions can cause rapid expansion of the disease and significant loss. Chemical treatments are not effective. Crop rotation is necessary in fields where the disease has been a problem. Other cultural practices such as planting on well drained soils, raising planting beds, delaying the planting date, and reducing plant density to provide better air circulation may all be helpful. Since injured areas of the plant are vulnerable to infection, great care must be taken during harvest and transport to avoid injury to the heads. Proper storage can minimize damage after harvest. Cauliflower can be stored for up to six weeks at 0°C and 95% relative humidity.

Cauliflower Soft Rot-*Pseudomonas marginalis* pv. *marginalis*

Rachel Bearden, University of Arkansas Cooperative Extension

Houseplants

Pseudomonas cichorii infects a wide range of flowering and foliage ornamentals, and is the most common species found on houseplants. Aglaonema, Anthurium, Caladium, Dieffenbachia, False aralia, English Ivy, Philodendron, Swedish Ivy, Dracaena, and Pothos are among those susceptible. Lesions are initially water-soaked and turn brown to black rapidly. Depending on host plant, the lesions may have concentric rings and be surrounded by a bright yellow halo. The center of the lesions may appear tan if the tissue dries out. Lesions frequently become very large, blighting large sections of the leaf. The bacterium enters through wounds or hydathodes. Control consists mainly of good cultural practices. Avoid leaf wetness when watering. Infected leaves may be removed. A bactericide such as Agri-strep (Streptomycin sulfate) may be used, but both

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phytotoxicity and resistance have been noted depending on host plant.

Dracaena (Corn Plant) Bacterial Leaf Spot-*Pseudomonas cichorii*

Sherrie Smith, University of Arkansas Cooperative Extension

Pothos Bacterial Leaf Spot-*Pseudomonas cichorii*

Sherrie Smith, University of Arkansas Cooperative Extension

Fire Blight

Ornamental pears and early cultivars of fruiting pears and apples are blooming. **Now** is the time to spray for control of 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 usseriensis* '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,

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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.

Pear Fire Blight-*Erwinia amylovora*

Sherrie Smith, University of Arkansas Cooperative Extension

Peach

If you had problems with Peach leaf curl last season, you should already have sprayed after dormancy in the fall. If you missed that window, it may not be too late if your peach trees have not started budding out. Once symptoms of Peach leaf curl are evident, it is too late to spray during the current season. Spores from the fungus *Taphrina deformans* overwinters on twigs and bud scales. Infection occurs at bud break early in the spring during cool, wet weather. Blister-like swellings, curling, thickening, puckering, and discoloration of the leaves are the first symptoms of Peach leaf curl. Affected areas may turn pink, red or yellow. In severe cases, defoliation occurs along with substantial yield loss. Peach leaf curl is easily controlled with one well-timed fungicide application in the fall after 90% of the leaves have dropped, or very early in the spring before the buds begin to swell. Chlorothalonil or copper sprays are effective. It is too late for chemical control this spring, but if only a few leaves are infected, they may be handpicked and destroyed to reduce inoculum levels.

Peach Leaf Curl-*Taphrina deformans*

Jason Osborn, University of Arkansas Cooperative Extension