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University of Arkansas System
Sherrie Smith

SPDN
Southern Plant Diagnostic Network
Issue 15-June 9, 2014

Arkansas Plant Health Clinic Newsletter

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Blueberry

For the first time, the Plant Health Clinic received a blueberry sample with Red Leaf, caused by the fungus *Exobasidium vaccinii.* Symptoms are reddish discoloration on the top surface of leaves, followed by puckering and cupping. A white to cream-colored layer of fungal growth (hymenium) develops on the underside of the leaf. Basidiospores are forcibly discharged into the air and carried to nearby plants. Those that are trapped in the tangle of the hymenium germinate and produce conidia. After sporulation, the affected leaves turn black and dry up. This is a systemic disease that is not curable. Any plant that is diagnosed with this disease should be pulled up and burned or buried. Adjacent healthy plants can be protected with fungicides. Pristine has shown the greatest efficacy in trials.

Blueberry Red Leaf hymenium- *Exobasidium vaccinii*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Blueberry Red Leaf-*Exobasidium vaccinii*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Blueberry Red Leaf spores-*Exobasidium vaccinii*

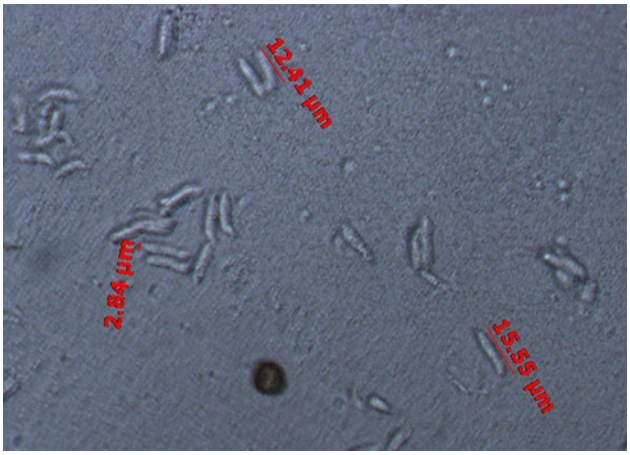

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Viburnum

David Viburnum, *Viburnum davidii,* is a compact, rounded, evergreen shrub that grows in a mound 2-3' tall and 3-4' wide. It has attractive, small, white flowers in showy, rounded clusters in the spring, and turquoise-colored berries that persist into winter. The berries are attractive to birds. Unlike many hardier species of viburnum, David viburnum is hardy only from zones 7-9. Some parts of the state had unusually low winter temperatures that injured David viburnums and made them vulnerable to infection by the bacterium *Pseudomonas syringae* pv. *viburni*, a bacterium that can be a problem in cool, wet springs. *Pseudomonas* produces a protein that increases the damage done by frost, allowing colonization of damaged tissue. Symptoms begin as water-soaked spots that turn dark brown to black and become irregular or angular in shape. This is not always true of foliage already burned by freeze injury. Large areas of frost damaged leaves become brown and are then colonized by the bacterium. Stem lesions are elongate and generally not as obvious. Severe infections can result in shoot dieback. Rake and destroy all fallen leaves. Prune damaged and infected leaves and shoots from the plant. Sterilize pruning tools between cuts in a 10%, (1 cup bleach to 9 cups water), bleach solution. Copper fungicides may be of some benefit. There are resistant cultivars available such as *Viburnum* × *burkwoodii* 'Mohawk', *Viburnum* × *carlcephalum* 'Cayuga', *Viburnum lantana* 'Mohican', and *Viburnum* × *rhytidophylloides* 'Alleghany'.

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Viburnum Bacterial Blight-*Pseudomonas syringae* pv. *viburni*

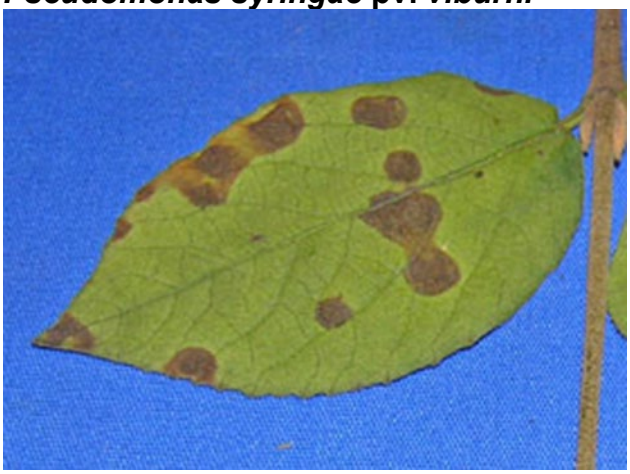

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Oak

A common fungal leaf disease of oak in Arkansas is Oak Leaf Blister, caused by *Taphrina caerulescens*. All oak species are vulnerable with red oaks being particularly susceptible. Prolonged periods of cool, wet weather in the spring are conducive for disease development. Symptoms become apparent in early summer as yellow, blister-like, circular, raised areas, 1/16 to 1/2 inch in diameter. The blisters are scattered over the upper leaf surface with corresponding gray depressions on the lower surface. As the spots age, they turn from yellow to brown with pale yellow margins, becoming dull brown in color. Several blisters may coalesce and cause the leaves to curl. Although unsightly, the disease usually does not greatly impact tree health. Control consists of raking up all fallen leaves and twigs, and the application of preventative fungicides where practical. Practicality usually depends on tree size as most homeowners are unable to reach the canopy of large oaks. One application of Chlorothalonil, copper, or mancozeb during dormancy is effective. Fungicides do not have any effect after bud swell in the spring.

Oak Leaf Blister-*Taphrina caerulescens*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Oak Leaf Blister-*Taphrina caerulescens*

Photo by Rick Cartwright, University of Arkansas Cooperative Extension

Onion

by Jason Pavel

Purple Blotch of onion, caused by the fungus *Alternaria porri,* can be a severe problem during prolonged wet, warm conditions. Onions, garlic, leeks, and other related Allium species are susceptible to Purple Blotch. All parts of the plant may be affected. Symptoms start on older leaves as elongated, small, sunken, whitish spots with a purple center. As the lesions age, concentric light and dark zones develop over the purple area. The lesions or blotches may enlarge to over 4 inches long. Severely affected leaves wilt and die. Bulbs are infected when spores enter neck wounds, usually at harvest. Lesions on the bulbs are dark yellow to wine-red, spongy areas that rot the outer or inner onion scales. The fungus is spread through the field by splashing water and wind. It overwinters on plant debris. Cultural controls begin with using clean seed and clean transplants. At least a three-year crop rotation to non-hosts such as small grains and corn should be followed. Cull piles, onion debris, and volunteer plants should be eliminated from the field. Avoid excessive amounts of nitrogen and dense plantings of late maturing varieties. Wait to harvest until necks bend over naturally. Cabrio 20EG, Fontelis, Inspire Super, Pristine, Quadris Top, and Scala SC are labeled for onion. Homeowners may use Ortho Garden Disease Control; or Bonide Fung-onil; or Hi-Yield Vegetable and Flower Fungicide; or Garden Tech Daconil Concentrate.

Onion Purple Blotch-*Alternaria porri*

Photo by Scott Harford, Arkansas grower

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Onion Purple Blotch-*Alternaria porri*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Onion Purple Blotch spores-*Alternaria porri*

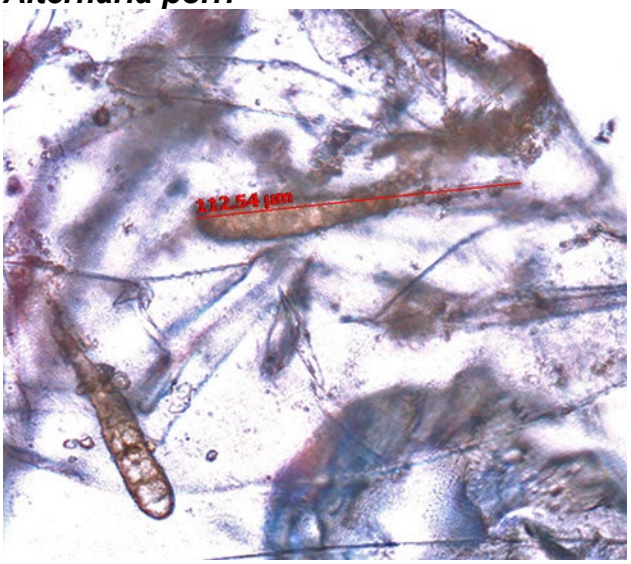

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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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