UNIVERSITY OF ARKANSAS
DIVISION OF AGRICULTURE
Cooperative Extension Service

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PLANT HEALTH CLINIC NEWS

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.

Pothos (sometimes called Philodendron)

Pseudomonas leaf spot caused by *Pseudomonas cichorii* is the most common bacterial disease affecting foliage plants. Lesions start as water soaked spots that rapidly turn dark brown to black, often having concentric rings within the dark tissue. They turn tan and dry out as they age. The lesions are sometimes surrounded by a bright yellow halo. Lesions are irregular in shape and frequently very large, up to 3 cm in diameter. The best control is to get rid of plants with these symptoms as the disease can be spread to other species of houseplants. If disposal of the infected plant is undesirable, cultural controls may be helpful. Avoid overhead watering and improve air circulation by spacing plants apart. Pick off and destroy leaves with symptoms. Some control has been achieved with the use of copper fungicides.

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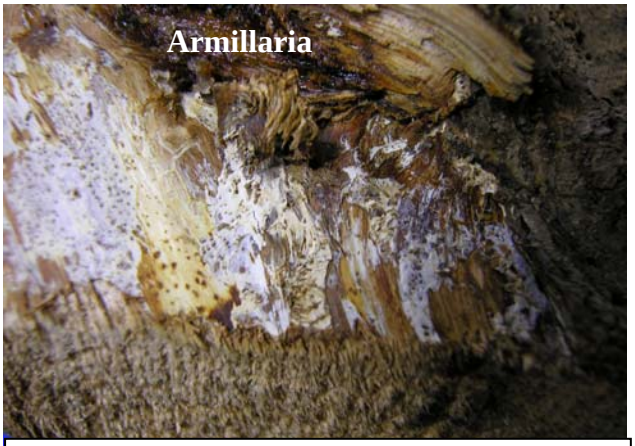
Psuedomonas leaf spot

White Pine

White pine is a very popular tree throughout the United States, but is not very well suited to our Arkansas climate. It is less tolerant of dry conditions than some species of pine. White pine prefers sites with medium to fine soil texture, medium to high soil fertility, and a soil layer deeper than 18 inches that is moist most of the time. When these conditions are not met trees may become stressed and more prone to disease problems. A sample arrived at the clinic this week with Armillaria root rot, also known as white rot. Armillaria species attack and damage living plants (pathogens) as well as live on dead ones (saprophyte). The fungus most commonly infects and kills trees that have been weakened by other pests, competition, or unfavorable climatic conditions. Symptoms on infected trees include thinning and discoloration of the foliage, which eventually turns yellow, then brown and dies. Large amounts of resin may ooze from the lower trunk of infected trees. Removing the bark in those areas may reveal the characteristic white mycelial mats (image below) and flat black to reddish brown fungal strands (rhizomorphs) that grow between the bark and the wood. Mushrooms (images on next page), the reproductive stage of the fungus, can be found growing in clusters around the bases of infected trees during moist periods. Complete elimination of Armillaria is not possible, since it is so widespread in nature. The best control is to use plants that are very suitable for our climate, minimize stress with proper water/fertilization, avoid wounding of roots, and promptly remove dead wood to limit food sources for the fungus. Where practical, clearing all wood (scraps or plants) within 30 or more ft. of infected plants may help prevent spread to nearby healthy trees.



Armillaria

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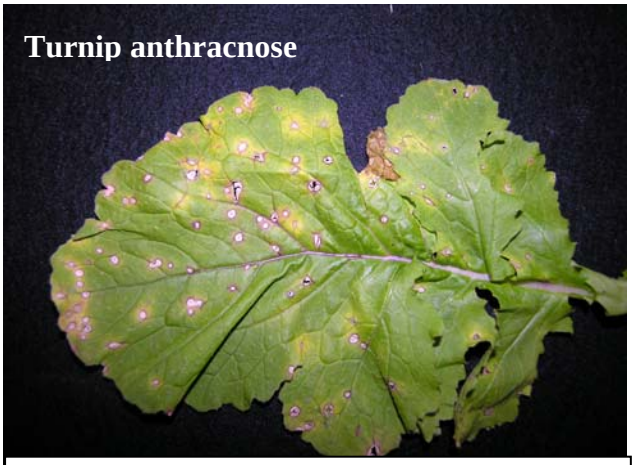
Turnips and Mustard

Turnips and mustard are prone to several foliar diseases when environmental conditions are favorable. Anthracnose leafspot caused by the fungus *Colletotrichum higginsianum* can occur during periods of warm wet weather. Symptoms include the presence of small, rounded spots with dry, usually straw-colored centers on the petioles stems, and leaves. Bacterial leaf spot caused by *Pseudomonas syringae* can infect both turnip and mustard crops. Symptoms are first seen on outer leaves as water soaked spots. The spots are tiny at first, brown to purple in color. As they enlarge a yellow halo often forms around the lesion. The spots grow together to form larger light brown papery areas that tear, giving a ragged appearance. Both diseases require the same control measures. Probably the most important management tool is crop rotation. Rotate greens with crops that are not in the mustard family including: broccoli, brussel sprouts, cabbage, cauliflower, collard, kale, kohlrabi, leaf mustard, radish, turnip, and water cress. Take soil samples in the fall to determine fertilizer needs. Use seed of high quality that have been grown under disease-free conditions if possible. Avoid overhead irrigation. It is important to destroy all wild mustard and related weeds and volunteer plants from a previous crop. Arkansas does not have any specific fungicide recommendations for commercial growers of turnips or mustard crops.



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Crape Myrtle

An unsightly condition sometimes affecting crape myrtle is sooty mold. A superficial coating of saprophytic fungi causes a dark brown or black coating on leaves and stems that can be removed by rubbing. It is the result of a fungus growing on "honeydew", a sticky substance produced by aphids, the most serious insect pest of crape myrtle. Sooty mold can reduce plant health and vigor by reducing photosynthesis in the leaves, but does not directly harm the plant itself. Using crape myrtle aphid-resistant cultivars and insecticide sprays may reduce sooty mold. And the mold may be washed off if desired.

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Azalea

Azalea rust is not generally considered a serious problem except in very susceptible varieties. At least 14 different species of rust fungi can infect Azalea and Rhododendron. Rust can be recognized by brownish to gold colored spore masses erupting from pustules on the underside of leaves, using a hand lens. In severe cases the number of spores is so high that they will form a rust colored powdery residue on fingers when the infected leaves are handled. Defoliation can occur which weakens the plant as it has to replace the lost leaves.

Good sanitation practices including the removal and destruction of infected leaves are helpful. An ornamental fungicide for homeowners listed for Azalea such as chlorothalonil provides a good measure of control when applied as a preventative spray.

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Soybean – Amy Greenwalt

To date, 26 counties in Arkansas have submitted leaf samples from late "still green" soybean plants that tested positive for Asian soybean rust. It is likely that the disease current exists statewide on green soybean or kudzu leaves.

The Envirologix Quik Strip soybean rust test for field use was accurate more than 90% of the time in detecting soybean rust on samples but failed a couple of times for unknown reasons. The Envirologix Elisa Plate Test, used in the Clinic for confirmation, has proved accurate for all samples tested to date.

It is currently believed that spores of the fungus moved from Louisiana late in the summer and were spread as far north as the Great Lakes along the Mississippi and Ohio River valleys in only a few days. While too late this year to cause crop damage, this rapid movement and subsequent development illustrate the potential speed of this disease on the U.S. soybean crop, should favorable weather conditions exist earlier in the season.

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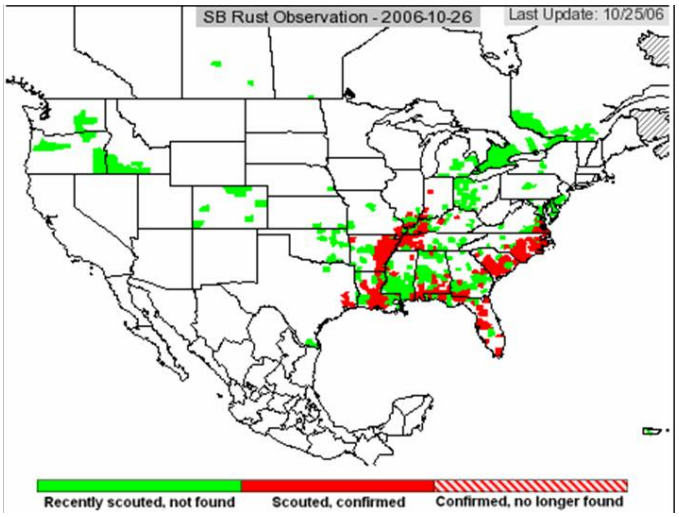
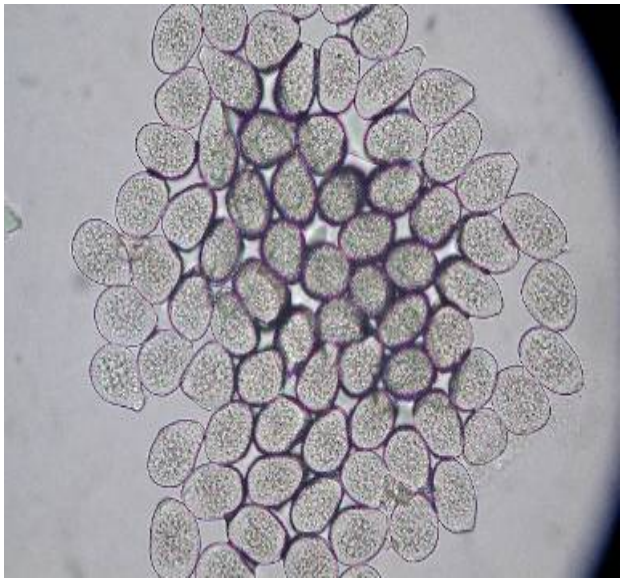


Soybean rust distribution in the U.S., 10/26/2006.



Photos: Left – soybean rust pustules on the underside of leaflet. Top – soybean rust pustules on the underside of a leaflet, magnified through a dissecting scope. Just above – Soybean rust spores from pustules, mounted in water and viewed with a lab microscope at 400X. (Photos by Amy Greenwalt and Rick Cartwright)