DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

SPDN
Southern Plant Diagnostic Network

Sherrie Smith

Issue 4, March 25, 2019

# Arkansas Plant Health Clinic Newsletter

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## Magnolia Verticillium Wilt

Southern Magnolia (Magnolia grandiflora) is a staple in the southern landscape. It's grown for its stately size, glossy evergreen leaves, and lovely blooms. They grow best in acidic soils (pH 5.0-6.0). They prefer well drained, loamy, moist, rich soils. Magnolias are best grown in part shade to full sun. They have large water requirements, needing 40-80 inches of water a year. They do not do well however in heavy soggy soils. Many of the leaf samples that come to us at the Plant Health Clinic are simply older leaves that the tree is shedding or preparing to shed. Although evergreen, Southern Magnolia begin dropping leaves in the fall through early spring as they replace their leaves a few at a time. The degree of leaf drop depends on genetic and physiological factors affecting the tree. Some will lose most of their leaves before new foliage comes out. This is unsightly and often frightens homeowners who feel their tree has a genuine problem. Magnolias do not suffer from many serious diseases. They can get fungal leaf spots which usually do not do much damage. Insects such as magnolia scale can be a problem. Blackening of the leaves with sooty mold is a good indication of scale infestation. Fine horticultural oil applied early in the season will usually suppress scale. One serious disease problem is Verticillium Wilt caused by the fungus *Verticillium albo-atrum* or *Verticillium dahlia*. Verticillium wilt is a soil-borne disease with a huge host range. The fungus invades through the roots and blocks the water conducting vessels of the plant. Symptoms are chlorosis, branch by branch decline and an overall thinning of the canopy. Eventually death occurs. When twigs or branches are cut in cross section, streaking may be seen in the wood. In magnolia the sapwood is a general brown color, not as obvious as the green to dark brown streaking found in other species of trees. Environmental stresses make trees more vulnerable. There is no cure for Verticillium wilt. The fungus exists for a long time in the soil. Therefore, when choosing a replacement tree or shrub, choose a resistant species.

## Resistant hosts:

Manzanita
Birch
Box Hornbeam
Katsura tree
White rock rose Sage-leaf rock rose Rock rose
Orange, lemon, grapefruit, others
Dogwood
Hawthorn
Eucalyptus
Beech
Fig Locust
Honey locust
Holly
Walnut
Liquidambar, sweet gum

Apple, flowering crabapples
Mulberry
Oleander
Western sycamore Plane tree
Pyracantha, firethorn
Pear
Oak
Willow
European mountain ash
California laurel
Linden

## Magnolia Verticillium Wilt-

***Verticillium* sp.**

**Photo by Carla Vaught, University of Arkansas Cooperative Extension**

## Magnolia Verticillium Wilt-

***Verticillium* sp.**

**Photo by Sherrie Smith, University of Arkansas Cooperative Extension**

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## Magnolia Lichenized Algal Leaf Spot

Magnolia Lichenized algal leaf spot is caused by parasitic algae *Cephaleuros virescens.* This organism causes twig cankers and leaf spots. Southern Magnolia (Magnolia grandiflora) is susceptible to infection when hot humid weather provides optimum conditions for the growth and spread of this pathogen. Lesions begin as round, green, velvety colonies on leaf surfaces or twigs. On leaves, the spots eventually turn reddish-brown with age. Algal leaf spot that has been colonized by fungi take on a grayish appearance and are called Lichenized algal leaf spot. The disease is most severe on Magnolias that are weak and in poor health. Trees that are grown in full sun and subjected to elevated temperatures and excessive leaf wetness are more severely affected. Cultural practices to minimize disease include a proper water and fertilization schedule. A soil sample should be taken to rule out nutritional and pH issues. Irrigation methods that spray water on the leaves should be avoided. All fallen leaves and twigs should be raked up and destroyed. Pruning overhanging branches from surrounding plants will improve air circulation. Lastly Applications of copper fungicides (Kocide) every 2 weeks during wet weather have proven helpful.

## Magnolia Lichenized Algal Branch Spots-*Cephaleuros virescens*

**Photo by Sherrie Smith, University of Arkansas Cooperative Extension**

## Magnolia Lichenized Algal Twig Spot-*Cephaleuros virescens*

**Photo by Sherrie Smith, University of Arkansas Cooperative Extension**

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## Magnolia Lichenized Algal Leaf Spot-*Cephaleuros virescens*

**Photo by Edward L. Barnard, Florida Department of Agriculture and Consumer Services, Bugwood.org**

## Magnolia Shearia Canker

Magnolias that are environmentally stressed are also subject to a canker disease called Shearia dieback of magnolia, causal agent Shearia fusa. The most common magnolia cankers diseases are Botryosphaeria, nectria and Shearia. Shearia dieback is a fungal disease that causes trunk and branch cankers, resulting in dieback of plant parts above the cankered area. Premature leaf drop, yellowing and branch dieback are symptoms. Root problems cause similar symptoms, so check carefully for limbs with sunken cankers before assuming Shearia dieback. Prune cankered branches from the tree and destroy or otherwise remove from the property. Submit soil to check that the soil profile is optimal for magnolia culture. Fungicides are not effective against canker diseases.

Los arboles de magnolia que están en condiciones de estrés son más susceptibles a ser afectados por enfermedades que causan chancros en tallos y ramas. Las enfermedades chancrosas más comunes en magnolia son: Botryosphaeria, nectria y Shearia. Shearia chancro es causada por el hongo *Shearia fusa*. Esta enfermedad fungida causa chancros en el tallos y ramas, ocasionando muerte superior de la rama o tallo desde donde se encuentra el chancro. Otros síntomas son: amarillamiento, defoliación prematura, y muerte descendente de las ramas. Algunos de estos síntomas también se pueden presentar por algunas enfermedades que atacan las raíces, por esa razón es importante inspeccionar la presencia de chancros en las ramas para pensar que puede ser Sheria chancro. Para el control de esta enfermedad se recomienda podar y destruir las ramas afectadas, el uso de fungicidas no es efectivo para el control de esta enfermedad. Es recomendado realizar análisis de suelo para asegurar que el suelo tiene las propiedades necesarias para el árbol de magnolia.

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## Magnolia Shearia Canker-

***Shearia fusa***

**Photo by Sherrie Smith, University of Arkansas Cooperative Extension**

## Magnolia Freeze Injury

Magnolias in some locations suffered freeze injury this winter. This is most noticeable on newest growth. These trees will recover and put on new growth.

## Magnolia Freeze Injury-Abiotic

**Photo by Sherrie Smith, University of Arkansas Cooperative Extension**

## Magnolia Freeze Injury-Abiotic

**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.

"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."