



Arkansas Plant Health Clinic Newsletter

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Dogwood

Dogwood Anthracnose

The Plant Health Clinic received its first sample of the season positive for Dogwood anthracnose. This is a deadly fungal disease of native dogwood that has killed millions of trees. The disease is caused by the fungus *Discula destructiva*, and is favored by cool, wet spring and fall weather, but can occur throughout the growing season. Symptoms begin in the lower crown and progress up the tree. Leaf lesions start as tan spots with purple rims but can rapidly enlarge to large leaf blotches. Leaves that are completely blighted don't fall off during autumn. The fruiting bodies (conidiomata) of the fungus may be observed with a hand lens on the underside of infected leaves. Infections progress through petioles into shoots and the dead petioles may form a crook that resembles fire blight. Cankers develop, usually at leaf scar sites, girdling and killing the shoot, while cankers occurring on the trunk can eventually kill the tree. Numerous epicormic shoots (Water sprouts) often form along the entire length of the main stem and on major branches of infected plants. These water sprouts are extremely vulnerable to infection. In certain situations, it

only takes 2 or 3 years for a badly infected tree to be killed. Fortunately, good management practices can control Dogwood anthracnose in the landscape, but these practices must be consistently followed to protect trees for the long term, since native dogwoods and neighboring trees that are not managed may serve as infection reservoirs. Carefully prune out all diseased, dying, and dead twigs and limbs. Avoid overhead irrigation if possible. If overhead irrigation must be used, water in the early morning so that the tree can dry out before night. It is very important that dogwoods be watered well during our hot summers to prevent drought stress, which may further encourage the disease. Remember that dogwoods are understory trees and prefer afternoon shade. Spray all plants with a systemic foliar fungicide labeled to control dogwood anthracnose (examples include fungicides containing propiconazole (Banner Maxx) or tebuconazole (Bayer Advanced Disease Control Products) at bud break in the spring. Good coverage of the entire tree with the spray is very important. About two weeks after the systemic spray, apply a protectant fungicide labeled to control dogwood anthracnose containing chlorothalonil (like Daconil products), thiophanate-methyl (Cleary's 3336 for example) or a product containing both like Spectro 90 WDG. Again, complete coverage of the entire tree is essential. Most dogwoods are small enough to allow the use of trombone tree sprayers for homeowner use. An example is the Trombone® Model 61224 sprayer by Hudson Sprayer Company.



Resistant varieties of dogwood are available and should be considered for new plantings or to replace diseased trees. If you want a cultivar of *Cornus florida*, the flowering dogwood, then Appalachian Spring is an anthracnose resistant choice. Resistant cultivars of the kousa dogwood (species *Cornus kousa*) include Big Apple, China Girl, Elizabeth Lustgarten, Gay Head, Greensleeves, Julian Milky Way, Steeple, and Temple Jewel. The *Cornus florida* x *kousa* hybrid flowering dogwood cultivars with anthracnose resistance include Aurora, Celestial, Constellation, Ruth Ellen, Star Dust, and Stellar Pink.

Dogwood Anthracnose-*Discula destructiva*



Photo by Berni Kurz, University of Arkansas Cooperative Extension

Dogwood Anthracnose-*Discula destructiva*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Dogwood Anthracnose-*Discula destructiva*



Photo by Danny Walker, University of Arkansas Cooperative Extension

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Dogwood Anthracnose epicormic growth-*Discula destructiva*



Photo by Mitch Spanel, Lawn Doctor of West Little Rock

Dogwood Spot Anthracnose

Dogwood **Spot** Anthracnose is an altogether different fungal disease of dogwood than Dogwood anthracnose. It is more a cosmetic problem than anything, as it does not kill branches or trees. Spot anthracnose, caused by *Elsinoe corni*, attacks dogwood blooms and leaves in the spring. White cultivars appear more susceptible than pink ones. The fungus causes uniform, tiny circular lesions with purple

borders and almost white centers. The center of the spots falls out later in the season giving a shot hole effect. In wet seasons the lesions become so numerous that leaves or bracts may become puckered and distorted. With severe infection, buds may fail to open. Spot anthracnose may be controlled with Daconil or Mancozeb. Spraying should begin when buds begin to open and be repeated when the bracts have fallen, four weeks after bracts have fallen, and again in late summer after the flower buds for next season have formed.

Dogwood Spot Anthracnose- *Elsinoe corni*



Photo by Sherri Sanders, University of Arkansas Cooperative Extension



Dogwood Spot Anthracnose- *Elsinoe corni*

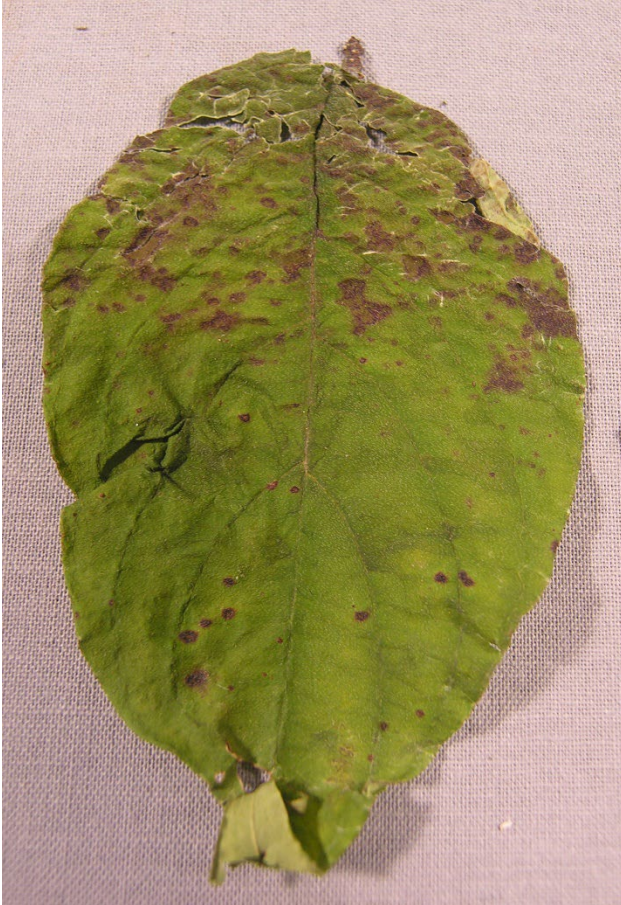


Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Dogwood Powdery Mildew

Powdery Mildew, unlike most fungi, does not need leaf wetness to infect, just high humidity. *Microsphaera penicillata* and *Phyllactinia guttata* are two species of fungi that can cause powdery mildew on dogwoods. Young leaves are especially susceptible to injury. White powdery growth develops on the new growth

distorting and curling the leaves. Affected leaves develop yellow mottling and can appear scorched later in the season. Although powdery mildew does not kill trees, it can weaken them and is unsightly. Trees subjected to high levels of humidity are more prone to develop the disease. Control consists of sound cultural practices, resistant cultivars, and the use of fungicides. The Tennessee Agricultural Experiment Station has developed three new powdery mildew resistant cultivars. They are 'Jean's Appalachian Snow, Karen's Appalachian Blush', and Kay's Appalachian Mist. Cultivars of Kousa dogwood are also resistant. Care should be taken not to overwater or apply too much nitrogen fertilizers, as these practices encourage a lot of tender succulent growth that is more prone to attack by the powdery mildew fungi. Provide good air circulation, keeping mind that dogwood do much better with some afternoon shade. Four fungicide applications made three weeks apart provide good control of powdery mildew. Heritage, Eagle, Spectracide Immunox, Banner Maxx, Cleary's 3336, Bayleton, and Strike are effective fungicides. Homeowners may use Spectracide Immunox Plus, or Bayer Advanced Disease Control for Roses, Flowers & Shrubs, or a product containing chlorothalonil.



Dogwood Powdery Mildew- *Phyllactinia guttata*



**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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