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Arkansas Plant Health Clinic Newsletter

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Iris

Some of the early iris have bloom stalks up. One of the nicest attributes of bearded iris is the lovely fragrance. They are also one of the easiest perennials to grow. Irises require good drainage and at least 6 hours of direct sun for best bloom but can tolerate part shade and a wide range of soils. They are not heavy feeders. A balanced fertilizer such as 5-10-10 or 6-10-6, applied once in early spring and again in early summer following bloom is adequate. The ideal pH is 6.8. Plantings with poor air circulation and too much water are prone to both foliar and root diseases.

Iris Leaf Spot

The most common foliage disease we see is Iris Leaf Spot caused by the fungus, *Cladosporium iridis*, (synonym *Heterosporium iridis*), teleomorph *Didymellina macrospora* (synonym *Mycosphaerella macrospora*). Symptoms are small, water-soaked lesions that develop rapidly into 1/2-inch- long spots with brownish purple centers and yellow margins. The leaf spots are found most often on the top portions of the foliage but, in severe cases, can be found over the entire leaf. In such cases, leaf death may

occur, weakening the plant. Iris leaves and flower stalks should be removed in the fall to reduce over-wintering inoculum. If possible, improve air circulation by thinning surrounding vegetation. Avoid overhead irrigation. Four to six sprays of an ornamental fungicide containing chlorothalonil (Daconil) or a fungicide containing thiophanate-methyl starting when the leaves are 4 to 6 inches high and repeated at 7- to 10-day intervals, will control the disease. Rates and timing will depend on individual labels.

Iris Leaf Spot-*Cladosporium iridis*

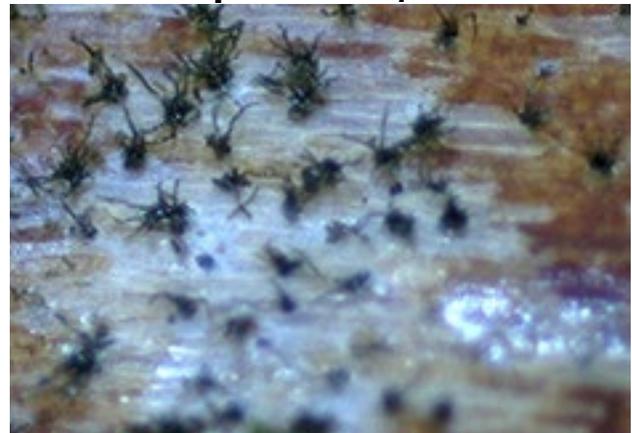


Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Iris Leaf Spot-*Cladosporium iridis*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Iris Bacterial Leaf Spot

Possibly the most aggravating disease of iris is Bacterial Leaf Spot, caused by *Xanthomonas campestris* pv. *tardicrescens*. Symptoms begin as small chlorotic water-soaked spots near the margins and leaf tips. The lesions enlarge and turn light brown with whitish or grayish centers. The infection may follow the leaf veins down the leaves and the spots coalesce to blight large

portions of the leaf. Bacterial Leaf Spot is easily confused with the fungal leaf spot. Both occur during periods of high humidity or rainy weather. The bacterial lesions are usually larger and more irregular in shape than fungal leaf spots. Unfortunately, it is possible to have both pathogens in a bed of iris. Bacterial Leaf Spot is easily spread on tools and by rain or irrigation splash. Good sanitation is essential. Remove all old foliage at the end of the season. If the disease is persistent in the bed, it can be useful to remove all the foliage at the end of the season and dip the rhizomes in a 10% bleach solution, (one part bleach to nine parts water), before re-planting in a new location. The rhizomes are not infected by the bacterium, but the bacterium can be moved on them.

Iris Bacterial Spot-*Xanthomonas campestris* pv. *tardicrescens*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Iris Rust

Iris rust is caused by the fungal pathogen *Puccinia iridis*. This rust occurs commonly on bearded and bulbous irises and also on the iris species *Iris fulva*, *I. missouriensis*, *I. tenax* and



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I. versicolor. Iris rust will spread from leaf to leaf and plant to plant. It overwinters in mild climates. Symptoms are reddish-orange pustules that appear on both sides of the leaf. The fungal lesions may be surrounded by yellow margins. If there are lots of rust spots, the leaves and stems will turn brown and die. Rusts are favored by humid climates and moderate temperatures. Rust is a common and serious problem in the southeastern United States. Dew, rain, fog, high humidity, and overhead watering all encourage the development of Iris Rust. The best way to control Rust is to take measures to prevent it. Remove and destroy old foliage in the fall. Don't plant new, healthy irises in a spot where you previously have had rust problems. If rust occurs, remove infected foliage. Fungicides containing chlorothalonil, myclobutanil, and mancozeb will help control rust.

Iris Rust-*Puccinia iridis*

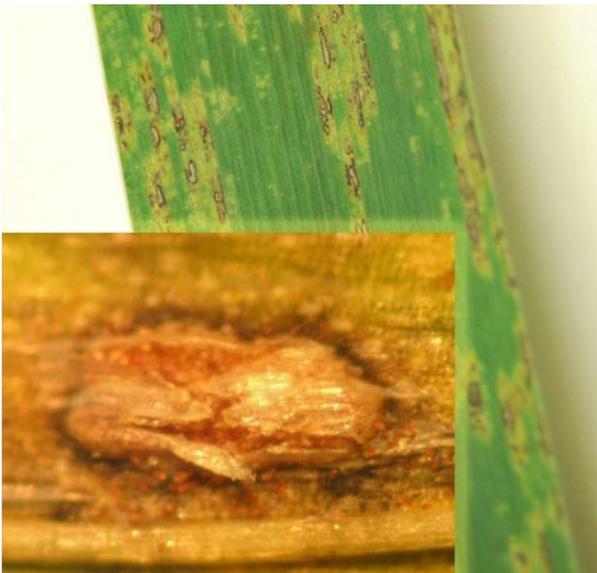


Photo by Mitch Crow, former University of Arkansas Cooperative Extension

Dogwood

As dogwoods across the area begin blooming, homeowners and nurserymen should be on the lookout for Dogwood Anthracnose. Dogwood Anthracnose, caused by the fungus *Discula destructiva* is a deadly fungal disease of native dogwood that has killed millions of trees. The disease 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. 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.



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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. At bud break in the spring, spray all plants with a systemic foliar fungicide labeled to control Dogwood Anthracnose. Examples of these systemics include fungicides containing propiconazole (Banner Maxx) or tebuconazole (Bio Advanced Disease Control Products). 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), or thiophanate-methyl (Cleary's 3336 for example) or a product containing both, such as 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 Jim Robbins, University of Arkansas Cooperative Extension

Dogwood Anthracnose-*Discula destructiva*

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Photo by Berni Kurz, University of Arkansas Cooperative Extension

Dogwood Anthracnose-*Discula destructiva*



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**Dogwood Anthracnose
epicormic growth-*Discula destructiva***

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Photo by Mitch Spanel

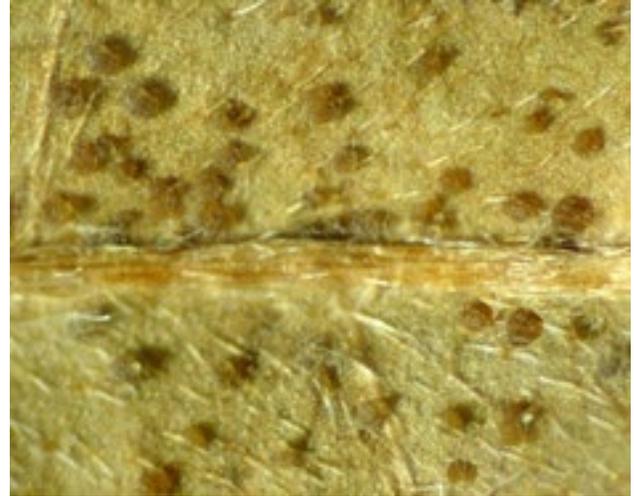


Photo by Sherrie Smith, University of Arkansas
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Camellia

Camellia Leaf Gall, caused by the fungus *Exobasidium camelliae*, attacks newly emerging shoots and leaves in the spring. Although leaf galls occur more commonly on sasanqua varieties of Camellia, the disease can also appear on *Camellia japonica*. Leaves become enlarged, abnormally thickened and fleshy. The tissue turns from green to white to pink. Eventually the galls rupture on the undersides of the leaves revealing a grayish white spore mass. With time these galls will become brown and hard. This is not a difficult disease to control. Remove and destroy young galls before the lower leaf surfaces turn white. Rake up and remove fallen leaves. Avoid overhead watering. Humid, moist, shady conditions in the spring favor gall formation. Chemical controls must be applied before infection occurs. Start sprays at budbreak and continue through the first of June at 7- to 14-

Dogwood Anthracnose *conidiomata-Discula destructiva*

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day intervals. Homeowners may use Spectracide Immunox; or Fertilome Liquid Systemic Fungicide; or Ortho Max Garden Disease Control; or Fertilome Liquid Fungicide; or Garden Tech Daconil Fungicide Conc.; or Green Light Fung-Away Fungicide; or Bonide Fung-onil Multipurpose Fungicide; or Green Light Systemic Fungicide; or Fertilome Halt Systemic; or Ortho Rose Pride Rose and Shrub Disease Control; or Bayer Advanced Garden-Disease Control for Roses, Flowers, and Shrubs. Once new growth hardens, it is no longer susceptible.

Camellia Leaf Gall-*Exobasidium camelliae*



Photo by Sherrie Smith University of Arkansas Cooperative Extension

Camellia Leaf Gall (ruptured epidermis)-*Exobasidium camelliae*

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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."