

## Plant Pathology Fact Sheet

# Dogwood Anthracnose

by John Hartman

Dogwood anthracnose, caused by the fungus *Discula destructiva*, is a serious disease of flowering dogwoods (*Cornus florida*) and continues to make an impact on the vitality of Kentucky landscape and forest dogwoods.

### Where is Dogwood Anthracnose?

Dogwood anthracnose began in the northeastern U.S. about 20 to 25 years ago and during the last several years has moved down the Appalachian mountains into many of the southern and mid-south states, including Kentucky. The disease is different from previous anthracnose diseases we have seen, and is sometimes referred to as “*Discula* anthracnose,” named for the fungus that causes the disease, and also as “lower branch dieback,” the most common serious symptom seen.

Dogwood leaf spots, leaf blight, and lower branch dieback caused by dogwood anthracnose have been observed in many parts of Kentucky. This disease is seen in many forested regions where native understory dogwood trees are threatened. Anthracnose is also present statewide in landscape trees, especially those growing in shaded locations. Trees ranging in age



from new transplants to mature specimens are affected. Most are in densely shaded sites, but some are in relatively open locations. It is probably present in dogwoods in most Kentucky counties. Many dogwoods in the most disease-prone areas have already died.

### Symptoms and Diagnosis

Trees with the disease usually show medium-large, purple-bordered leaf spots and scorched tan blotches that may enlarge to kill the entire leaf. These leaf spots should not be confused with spot anthracnose (tiny purple-bordered tan spots), *Septoria*

leaf spot (purple, angular lesions), or areas where *Botrytis*-infected flower bracts have lodged on the leaf surface (causing a tan blotch). Plant pathologists use microscopic fungal signs (conidiomata and spores) to confirm the presence of the *Discula* fungus in the laboratory.

Where twig or petiole infections have occurred, dark, shriveled dead leaves may be seen hanging from the infected branch. Although leaf spot and blight are the most common symptoms, some trees showing little leaf spot nevertheless have twig infections and dead leaves. As the disease progresses, lower branches die, cankers (detected as dark brown discoloration under the bark) form on the limbs, and trunk sprout development increases.

### **Disease Management**

Most of our best growing practices are also important in slowing the loss of dogwoods from anthracnose (refer to UK Extension publication ID-67, *The Flowering Dogwood*). Be aware of how the disease spreads and of conditions most favorable for disease development.

1. Anthracnose sometimes appears in Kentucky on infected trees brought into the landscape from the forest, and on nursery stock brought from an infected area of another state. Do not transplant dogwood trees from the forest. Only purchase healthy trees from a reputable nursery.
2. Dogwood anthracnose is favored by wet, rainy weather, and slow foliage drying. Select a good planting site to promote rapid foliage drying. A sunny exposure from the east to dry the tree early in the day is most helpful.
3. Remove shade and overhanging

branches. Dogwoods tolerate and prefer partly shaded locations, so if a choice is to be made, remove shade on the east side of the tree. Reduce nearby shade to promote more rapid drying, but not so much as to cause heat and moisture stress.

4. Trees having adverse growing conditions are more susceptible to or are more damaged by dogwood anthracnose disease.
5. Protect trees from drought by watering at least once a week during dry spells. Avoid watering with sprinklers that wet the foliage.
6. Maintain a 2 to 4 inch layer of mulch such as wood chips on the ground around the base of the tree, but not against the trunk, to help maintain soil moisture and reduce competition from grasses or ground covers.
7. Diagnose and treat insect and other disease problems appropriately.
8. The *Discula* fungus greatly damages the tree if it enters the trunk via sprouts and bark injuries. Prune trunk sprouts in the fall. Avoid mechanical injuries such as caused by lawn mowers or string trimmers.
9. Some trees have genetic resistance to dogwood anthracnose. Oriental dogwood (*Cornus kousa*) is Anthracnose resistant and should be considered for high risk sites such as those with heavy shade and nearby diseased trees. White dogwoods appear to be less susceptible than pink flowered trees. New dogwood cultivars of the 'Appalachian' series are anthracnose-resistant.

10. Prune out and destroy dead twigs and branches as they occur. Rake up and destroy fallen leaves in autumn.
11. If the tree is valuable enough, fungicide sprays may be warranted. The active ingredients chlorothalonil (e.g., Daconil 2787), benomyl, thiophanate-methyl (Cleary's 3336), mancozeb (Fore, Manzate 200), or propiconazole (Banner) are effective protectant fungicides. Fungicides should be applied beginning at bud break in the spring and continued biweekly until hot, dry summer weather. Thorough coverage is essential. Without proper spray equipment, protection from anthracnose with fungicides will not be effective.

### **Additional Comments**

Left unchecked, the *Discula* fungus and the disease it causes will, under the right conditions, continue to develop in the tree.

It is likely that dogwood anthracnose will continue to be a serious problem in Kentucky. During certain parts of the growing season our weather favors disease development. Ultimately, the severity of dogwood anthracnose in Kentucky will depend on the weather and on how well we maintain our dogwoods in the landscape. We should be advising wise selection of dogwood trees and planting sites, and to be prepared to maintain them well.

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