

Pest Management of Flowering Dogwood

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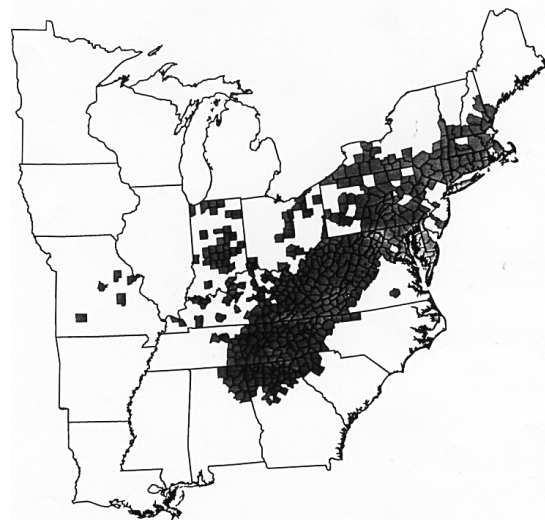
Flowering dogwood (*Cornus florida*) thrives in areas with morning sun and afternoon shade, and well-drained, slightly acid organic soils. The shallow root system is sensitive to drought and competes poorly with turfgrass for water and nutrients. For this reason, dogwood performs best where there is a layer of organic mulch beneath its branches. Mulch also protects the trunk from wounds inflicted by mowers and string trimmers, wounds that often lead to serious insect and disease problems. Nitrogen and manganese deficiency are common on infertile soils, especially those that are alkaline or poorly drained.

Dogwood is prone to several serious pests that require proactive management to maintain plant health and appearance.

Discula Anthracnose

Discula anthracnose, caused by a fungus *Discula* sp., has been found infecting flowering dogwood over a wide area of eastern United States (see map). It can be a killer of landscape dogwoods in shady, cool and moist environments particularly trees weakened by drought or cold. Consecutive years of heavy infection usually result in severe dieback and death.

Dogwood Anthracnose - 1996



Counties Confirmed with Discula Anthracnose

SYMPTOMS OF DISCULA



The disease first infects flower bracts and young leaves on the lower portion of the plant. Leaf veins may blacken and leaf margins scorch. Discula blights leaves and directly infect shoots and

twigs causing cankers and branch dieback.

Blighted leaves are usually retained on twigs throughout the winter. Twig and branch dieback is most common in the lower part of the tree. As a result of twig blight, succulent epicormic sprouts proliferate on the lower trunk. These tender sprouts are prime candidates for infection the following spring. Infection then progresses into the main stem. Multiple cankers may finally kill the entire tree.



Discula infection of Foliage

Discula Canker Caused by Shoot Infection



CONTROL

Discula anthracnose management relies on protective fungicide treatments applied in the spring beginning at budbreak. Treatments are repeated every two weeks until the first flush of growth is mature and temperatures warm up. Typically three treatments will provide the needed protection.

In addition to fungicide treatments, pruning diseased twigs and shoots reduces inoculum. Fertilize based on results of soil testing. Avoid producing a lot of succulent growth on infected trees. trees should be Mulched and watered, to reduce moisture stress.

Spot Anthracnose

The fungus *Elsinoe corni* causes spot anthracnose. It is the most common disease

of flowering dogwood. While by itself this disease is not life threatening to healthy trees, it can be a contributing factor to tree decline.

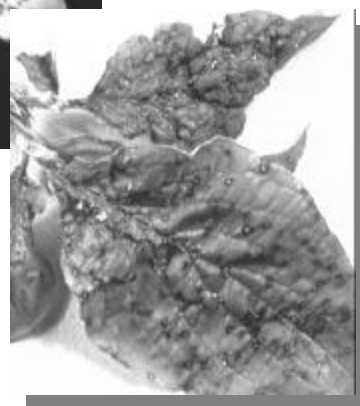
SYMPTOMS

Spots on the foliage and flower bracts are small, 1/16 to 1/25 inch in diameter, circular to oval, with reddish-purple borders and a tan centers. Heavily infected foliage and bracts are badly deformed. Infection on shoots and fruit are oval with purple margins. Spot anthracnose tends to be worse on trees in dense crowded conditions.



Antracnose on Flowers

Spot Anthracnose on Foliage



CONTROL

Preventative treatments for Discula anthracnose will suppress spot anthracnose.

Powdery Mildew

Powdery mildew has rapidly developed into a major disease of dogwood. Once assumed to cause only cosmetic damage,



research now shows that it is quite damaging

to dogwood. This disease also makes dogwoods much more susceptible to drought injury.

Powdery mildew is favored by warm temperatures and high humidity. Unlike most fungi, it does not need wet foliage to infect. Late spring through early fall are the prime seasons for severe powdery mildew outbreaks. Trees located in sunny exposed locations are just as susceptible to infections as those in the shade.

SYMPTOMS



The disease gets its name from the white powdery appearance it imparts on the leaf surface. This symptom is most common on young expanding foliage of the summer flush of growth. In addition to a powdery appearance, infected foliage may become twisted and distorted. More commonly,

dogwood leaves display reddish-purple patches or flecking and may scorch on the margins.

CONTROL

For powdery mildew suppression, begin treatments around budbreak with additional treatments at monthly intervals. Monthly treatments typically give 90 percent control even under extreme disease pressure. Native dogwood shows a wide range of natural resistance to this disease. Variety selection is a key to having disease-free plants.

Dogwood Borer

Dogwood borer (*Synanthedon scitula*) is the most serious insect pest of flowering dogwood.

Landscape trees in the full sun are particularly attractive to the



borer. Dogwood borer readily attacks trees that are declining from other stresses such as drought or disease. The adult, a clearwing moth, lays eggs on bark surfaces around wounds. Caterpillar feeding within the phloem girdles limbs and trunks.

SIGNS AND SYMPTOMS

The first obvious sign of attack is dark frass on the bark surface. The half-inch larvae will be found at the end of brown, frass-packed galleries within living bark. Dieback and adventitious shoots are symptoms of advanced damage. Old declining trees may be repeatedly attacked year after year.

CONTROL

Damaged trees can be protected by an insecticidal treatment applied prior to the egg-laying period in June. Bark surfaces in and around wounds and old attack site must be sprayed thoroughly. Prune out limbs that are heavily damaged by dieback, sunscald or prior borer attack. Avoid injury and stress to trees through proper cultural practices.

Canker and Root Rot

Approximately seventy percent of the dogwood canker and root samples received at the Bartlett Tree Diagnostic Laboratories are confirmed positive for *Phytophthora* infection. When soils and roots remain saturated with water, the environment is right for spread of this disease. Injuries at the root collar, piled soil and mulch can lead to bleeding trunk cankers.

SYMPTOMS

Plants with *Phytophthora* infection have a general unhealthy appearance. Foliage is small, chlorotic, drooping, and may scorch at the margins. Twig growth slows and crowns thin out. Decline may occur over a period of years beginning with death of twig, progressing to dieback of major limbs, and finally to the tree death.

Phytophthora trunk cankers are typically located near the ground. Bark falls away after death of the infected area and may

show ridges of callus tissue. Dark liquid may be oozing from the margins of the canker where the fungus is still active. The wood beneath the active area is dark reddish-brown and watersoaked.

CONTROL

If soils are not excessively wet, *Phytophthora* seldom is a problem. Disease starts and advances when trees are overwatered or drainage patterns are changed. New irrigation systems can often be identified as the source of overwatering. Trunk injury from lawnmowers or string trimmers can open trunks to cankers. Placing soil up around the root collar may lead to canker infection.

Newly planted trees decline from *Phytophthora* on heavy, poorly drained clays. Deep planting and overwatering increases disease incidences in marginal soils.

Fungicide treatments will reduce infection and improve tree health if the disease is not too advanced. Along with fungicide treatments, reduce irrigation, improve drainage patterns, plant in raised beds, and avoid trunk injury. In situations where suitable soil drainage cannot be obtained, plant species that are more tolerant of wet soils.

Other Pest Problems

Other common pests of dogwood include leaf spots, Armillaria root rot, dogwood twig borer, ambrosia beetle, aphids, twig gall midge, whitefly, and scale insects and leaf-feeding caterpillars.

DISEASE RESISTANCE IN DOGWOOD

When purchasing dogwood trees, variety selection for disease susceptibility should be the primary consideration. Many fine varieties are available that offer both an impressive flower displays and low disease incidence. Remember that resistance does not mean complete freedom from disease and some disease symptoms should be expected in some years.

<i>Disease Resistant Varieties</i>		
<i>Powdery Mildew</i>	<i>Spot Anthracnose</i>	<i>Discula Anthracnose</i>
C. florida 'Cherokee Brave' 'Cherokee Chief' 'Dwarf White' 'Sweet Water Red' C. kousa 'Big Apple' 'China Girl' 'Milky Way' 'Milky Way Select' 'Temple Jewel' X 'Celestial'	C. florida 'Cherokee Sunset' 'Cherokee Chief' 'Cherokee Brave' 'Double White' 'First Lady' 'Plena' 'Springtime' 'Rubra Red' 'Weaver's White' 'Welch's Bay Beauty' C. kousa 'Aurora' 'Galaxy' 'Milky Way' 'Milky Way Select' 'National' 'Stellar Pink'	C. florida 'Appalachian Spring' C. kousa (most varieties)