

## Dogwood anthracnose: deadly disease

By **Bruce Wenning**/Special To The Tab

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Flowering dogwood, *Cornus florida*, is a native understory tree in the eastern United States. This tree has been popular for use in home landscapes for over fifty years. Part of its popularity is that it is a slow to moderate grower and can reach a height of thirty feet and a crown width of about twenty five feet at maturity.

Flowering dogwoods are highly prized for their white or pink leaf- like bracts, which are often mistaken for the actual flowers. The flowers are much smaller and less showy than the surrounding four bracts. The bracts and flowers are emerging just about now in the landscape. At the Mass Audubon sanctuary where I work there are close to fifty scattered through out the property, and you certainly get a sense that spring is here to stay when you see these trees in bloom.

The 50 that I see every day were once part of a population of 250 that ranged in age from thirty to seventy years old. Unfortunately, by the late 1980's the majority of this larger population had died or was weakened so severely by this new fungal pathogen that they were cut down, forever changing the landscape. The pathogen is dogwood anthracnose, *Discula destructiva*,. It was first discovered in the New York City area in 1979. By the late 1980's it had spread to Massachusetts and to other east coast states south of New York City. Dogwood anthracnose continues to spread throughout the natural range of this native tree.

According to U Mass plant pathologist Dan Gillman, there is controversy about the origin of this disease. Some researchers think it is an invasive, exotic pathogen introduced on nursery stock, perhaps from Asia. Others think it could be a weak pathogen that mutated and became more virulent as environmental conditions favored and enhanced it. In either case, it is a disease to be reckoned with. It will continue to spread in our woodlands and forests and threaten the existence of this prized native tree.

Most anthracnose fungi attack only leaves and rarely kill their hosts. However dogwood anthracnose attacks both leaf and woody tissue. It is more destructive than the anthracnose diseases of maple, oak, sycamore, and birches, to name a few. Most of the time dogwood anthracnose kills the host slowly. It causes leaf spots, leaf and shoot blight (wilting) and twig, stem, and trunk cankers. Cankers give older trees a bumpy and contorted look, and they will eventually kill the tree. When infected flowering dogwood is subjected to environmental stresses and drought, tree death occurs even faster. Trees that have lost several branches or are in a weakened condition try to fight off the disease by developing prolific sprouting of small, clustered branches called water sprouts, which are highly susceptible to infection, which produces the cankers.

Fungal spore development causing this disease is favored by cloudy, cool, humid, and wet weather that occurs mostly in spring and early summer. Leaf spotting, and twig

and stem infection usually start in the shady lower branches where the microclimate is cooler and more humid, which is beneficial for spore development. Sun and wind cause leaves and stems to dry out faster in the upper portions of the tree, thereby disabling the fungus and minimizing infection.

The disease can be managed by following these suggestions.

- Get a soil test to determine the proper amount of organic tree fertilizer needed to maintain tree health.
- Mulch the root zone with two to three inches of bark mulch to keep roots cool and to conserve moisture to drought, especially young trees, which are most susceptible to drought.
- Provide at least one inch of water once a week during dry spells or drought.
- Water only the root zone, not the leaves; excess moisture can spread the fungus.
- The best times to prune dogwood to minimize disease infection and spread is during dry weather. Timing is key; a dry spell of 48 hours-one week is best. The tree will be able to seal off the wound within 24 hours. The other time is in late winter, because when temperatures are below forty degrees (F) the fungus advances more slowly.
- Consult a Massachusetts Certified Arborist to confirm if you need fungicidal sprays. Fungicides will not cure dogwood, only protect it until the fungus mutates to a more virulent form. If you use fungicides, skip applications during dry weather when anthracnose spores are less infective.

For more information about dogwood anthracnose and soil testing see:

[www.UMassGreenInfo.org](http://www.UMassGreenInfo.org).

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