

Dogwood anthracnose

The fungus *Discula destructiva* causes dogwood anthracnose leaf blight and canker.

Host Plants:

Dogwood anthracnose infects flowering (*Cornus florida*) and Pacific dogwoods (*C. nuttallii*). Kousa dogwood (*C. kousa*) is also susceptible to infection but the disease is usually limited to leaf spots.

Description:

Susceptible trees commonly have spotted leaf and flower bracts in late spring and early summer, but during wet springs, leaf and twig blights often occur. Leaf spots are round to blotchy and have tan centers with reddish purple margins. During wet years, multiple spots on leaves coalesce to form irregular, tan blotches or blight entire leaves.



Leaf spots



Leaf and shoot blight

Vascular cambium infected with dogwood anthracnose is chocolate brown in contrast to the pale tan color of healthy sapwood. The pattern of branch dieback due to canker infections tends to develop from lower branches on up from there. Epicormic or water sprouts develop on the stems of trees that have incurred extensive branch dieback.



Left: Lower branch dieback.



Right: Epicormic water sprouts on trunk of tree with extensive branch dieback.

Photos: M. Daughtrey, *Diseases of Woody Ornamentals and Trees*. APS Press.

Disease Cycle:

Dogwood anthracnose survives dormant periods in infected leaves, twigs and branches. Fruiting structures erupt through the bark of twigs and on the underside of spotted leaves. During moist spring weather, the dark colored acervuli exude copious numbers of spores. Water splashes conidia onto green shoots, developing

leaves and flower bracts, which they infect causing blights and leaf spots. Young leaves and epicormic sprouts are highly susceptible to direct infection by conidia. The *Discula* fungus grows down the petiole of infected leaves and enters twigs or it directly infects green shoots. Dogwood anthracnose cankers girdle these twigs and shoots killing growth beyond that point. Cankers develop at the point where infected epicormic sprouts attach to a branch or stem disrupting water and mineral transport beyond that point.

Management Strategies:

There are a number of resistant varieties and species of dogwood available that greatly reduce the need for other interventions. *Cornus kousa* cultivars Big Apple, China Girl, Elizabeth Lustgarten, Gay Head, Greensleeves, Julian Milky Way, Steeple and Temple Jewel are resistant. In addition, there are hybrids of *Cornus kousa* with *C. florida* that incorporate desirable characteristics of the flowering dogwood with dogwood anthracnose resistance. These make up the 'Stellar' Hybrid series and include Aurora, Celestial, Constellation, Ruth Ellen, Stardust and Stellar Pink. Reduce the impact of dogwood anthracnose in susceptible trees by maintaining the vitality of the tree and initiating interventions before there is extensive branch dieback. Irrigate well during extended dry periods, keep a 2-3 inch layer of composted pine bark mulch over the root zone, and sustain soil mineral levels by fertilizing as needed. Remove infected branches and leaves to decrease inoculum around the tree. Also, remove epicormic sprouts regularly. Supplement these activities with fungicide applications to protect green shoots and leaves during wet periods. Apply fungicides as the buds open and repeat with additional treatments per label directions to keep up the protection until leaves expand completely. Susceptible high value trees benefit from a late summer fungicide treatment to protect new buds if wet weather prevails at that time.

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