

California Pest Rating Profile for

Discula destructiva Redlin 1991

dogwood anthracnose

Pest Rating: C

Kingdom: Fungi, Phylum: Ascomycota, Subphylum:
Pezizomycotina, Class: Sordariomycetes, Subclass:
Diaporthomycetidae, Order: Diaporthales, Family:
Gnomoniaceae

Comment Period: 06/25/2026 through 08/09/2026

Initiating Event:

The first official detection of dogwood anthracnose in California was made by CDFA plant pathologist Tim Tidwell. In 1997, he received a sample from a 30-year-old tree growing in San Joaquin County and identified *Discula destructiva* by morphology. He assigned a Q-rating. Over the past 30 years, official samples have been submitted occasionally, including a recent sample received from Humboldt County. Based on the known current distribution and history in the State, CDFA plant pathologist Cheryl Blomquist assigned a Z-rating. This pathogen has not been through the pest rating process. The risk to California from *Discula destructiva* is described herein, and a permanent rating is proposed.

History & Status:

Background:

The name “anthracnose” is used to describe a group of fungal diseases that cause dark, sunken lesions on plant leaves, stems, flowers, and fruits. Anthracnose thrives in cool, wet spring weather and spreads rapidly via rain or irrigation splashing onto foliage. While rarely fatal, it can cause severe leaf drop and disfigurement. The exact geographic origin of *Discula destructiva* remains unknown. It first appeared in the USA in 1978 and was first noticed on flowering dogwoods (*Cornus florida*) in northeastern States (New York and Connecticut). It was later realized that similar symptoms had been observed on Pacific dogwood, *C. nuttallii*, on the west coast near Seattle, Washington in 1976 (Redlin, 1991). It rapidly devastated native Canadian and American dogwood populations on both coasts (Daughtry et al., 1996).

Genetic evidence suggests it is an introduced, non-native pathogen in North America (Trigiano et al., 1995).

Dogwood anthracnose is more prevalent in northern California, where there are native stands of *Cornus nutallii* and the climate is similar to that of the Pacific Northwest. Dogwood anthracnose is much less frequently found in the Sierra Nevada or Southern California, where there is usually insufficient rain to allow for spore dispersal in the spring. *Cornus florida* and *C. kousa* are grown as ornamentals in areas of the state where the summer temperatures are moderate. The lack of summer rain is probably why this disease is rarely seen in these areas (Blomquist, 2011).

Hosts: *Cornus florida* (flowering dogwood), *C. kousa* (Kousa dogwood), and *C. nuttallii* (Pacific dogwood) (Farr et al., 2026).

Symptoms: The disease was first called “lower branch dieback” after the most characteristic symptom of dogwood anthracnose, which is the yearly twig and branch death beginning in the lower part of the canopy. Symptoms also include necrotic spots, scorch, and blight of the leaves, nondehiscence of blighted leaves, cankers, growth of abnormal epicormic branches, and dieback.

Early leaf infection shows as small, purple-rimmed spots and progresses to larger brown blotches. The dead tissue sometimes weathers away so that infected leaves develop “shot holes” and appear ragged. Reddish brown-purple spots and brown necrotic blotches also form on flower bracts after rainy periods. Leaf lesions are often similar to those caused by *Septoria cornicola*, but are generally larger than the tiny (< 1/25 inch diam.) spots typical of the spot anthracnose disease caused by *Elsinoe corni*. Dogwood anthracnose can severely canker branches, especially in the lower canopy, causing branch dieback and sometimes death of the entire tree (Daughtrey et al., 1988; Britton, 1993).

Transmission: In the spring, reproductive structures of *D. destructiva* form in leaf spots and on the surface of twig cankers. Numerous asexual spores ooze out in slimy beige droplets from buds and twigs. Prolonged leaf wetness is very important for spore germination and infection. Most short-distance dispersal of the fungus within and among trees is thought to occur via wind-driven and splashing rain. Dispersal by the convergent lady beetle (*Hippodamia convergens*) has been observed (Colby et al., 1995). Seed-carrying birds are also suspected of being carriers of dogwood anthracnose since the fungus has been isolated from fruit and seed of infected dogwoods (Sherald et al., 1996). Trade of infected plants has resulted in long-distance dispersal (Daughtrey et al. 1988; Daughtrey et al. 1996; CABI, 2020).

Damage Potential: Dogwoods of all ages and sizes were susceptible. Even the woodland population of dogwood seedlings was drastically reduced. Diseased trees in open sites may be damaged but remain alive, whereas infected understory dogwoods in woodlands die in 2-5 years (CABI, 2020). There is a great loss of aesthetic value when the flower bracts are blighted in the spring.

Worldwide Distribution: Canada, Germany, Italy, Switzerland, United Kingdom, United States (Alabama, California, Connecticut, Delaware, DC, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Hampshire, New Jersey, New York,

North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia Washington, West Virginia) (Farr et al., 2026; EPPO, 2026)

Official Control: *Discula destructiva* is on the USDA PCIT's Harmful Organism list for the Republic of Korea (USDA- PCIT, 2026).

California Distribution: Humboldt, Mendocino, San Joaquin, and Santa Clara counties (French, 1989; CDFA PDR database, 2026)

California Interceptions: none

The risk that *Discula destructiva* would pose to California is evaluated below.

Consequences of Introduction:

- 1) Climate/Host Interaction:** Dogwood anthracnose thrives in moist conditions. Anthracnose is more severe, and tree mortality is greater, on dogwoods growing in the shade or as understory trees. In full sun, symptoms are more severe in the lower branches than in the upper, exterior canopy, and infected trees often recover with proper maintenance. The fungus thrives in cool (65 °F–75 °F), wet, and humid conditions, making mountain and coastal climates ideal. The disease is not seen in Southern California.

Evaluate if the pest would have suitable hosts and climate to establish in California.

Score: 2

- Low (1) Not likely to establish in California; or likely to establish in very limited areas.
- **Medium (2) may be able to be established in a larger but limited part of California.**
- High (3) likely to establish a widespread distribution in California.

- 2) Known Pest Host Range:** The host range is limited to *Cornus* spp.

Evaluate the host range of the pest.

Score: 1

- **Low (1) has a very limited host range.**
- Medium (2) has a moderate host range.
- High (3) has a wide host range.

- 3) Pest Reproductive Potential:** The pathogen only has an asexual phase and requires rain and extended wet periods to infect and disperse.

Evaluate the natural and artificial dispersal potential of the pest.

Score: 1

- **Low (1) does not have high reproductive or dispersal potential.**
 - Medium (2) has either high reproductive or dispersal potential.
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- High (3) has both high reproduction and dispersal potential.

- 4) **Economic Impact:** Dogwood anthracnose is a devastating disease in the Eastern US and the Pacific Northwest. It has been in California for almost 30 years and is considered a minor disease. California's relatively dry climate has reduced the economic impact here.

Evaluate the economic impact of the pest on California using the criteria below.

Economic Impact: A

A. The pest could lower crop yield.

- B. The pest could lower crop value (including increasing crop production costs).
- C. The pest could trigger the loss of markets (including quarantines).
- D. The pest could negatively change normal cultural practices.
- E. The pest can vector, or is vectored, by another pestiferous organism.
- F. The organism is injurious or poisonous to agriculturally important animals.
- G. The organism can interfere with the delivery or supply of water for agricultural uses.

Economic Impact Score: 1

- **Low (1) causes 0 or 1 of these impacts.**
- Medium (2) causes 2 of these impacts.
- High (3) causes 3 or more of these impacts.

- 5) **Environmental Impact:** The Pacific dogwood, which is native to California, is highly sensitive to the disease, with heavy mortality seen in shaded, wet, and humid forest settings. The disease on flowering dogwood greatly reduces its horticultural value.

Evaluate the environmental impact of the pest on California using the criteria below.

Environmental Impact: A, E

- A. The pest could have a significant environmental impact such as lowering biodiversity, disrupting natural communities, or changing ecosystem processes.**
- B. The pest could directly affect threatened or endangered species.
- C. The pest could impact threatened or endangered species by disrupting critical habitats.
- D. The pest could trigger additional official or private treatment programs.
- E. The pest significantly impacts cultural practices, home/urban gardening, or ornamental plantings.**

Environmental Impact Score: 3

- Low (1) causes none of the above to occur.
- Medium (2) causes one of the above to occur.
- **High (3) causes two or more of the above to occur.**

Consequences of Introduction to California for *Discula destructiva*: Low

Add up the total score and include it here. **8**

-Low = 5-8 points

-Medium = 9-12 points

-High = 13-15 points

- 6) Post-Entry Distribution and Survey Information:** Evaluate the known distribution in California. Only official records identified by a taxonomic expert and supported by voucher specimens deposited in natural history collections should be considered. Pest incursions that have been eradicated, are under eradication or have been delimited with no further detections should not be included.

Evaluation is 'high'.

Score: -3

-Not established (0) Pest never detected in California or known only from incursions.

-Low (-1) Pest has a localized distribution in California or is established in one suitable climate/host area (region).

-Medium (-2) Pest is widespread in California but not fully established in the endangered area, or pest established in two contiguous suitable climate/host areas.

-High (-3) Pest has fully established in the endangered area, or pest is reported in more than two contiguous or non-contiguous suitable climate/host areas.

- 7) The final score is the consequences of the introduction score minus the post-entry distribution and survey information score: (Score)**

Final Score: Score of Consequences of Introduction – Score of Post Entry Distribution and Survey Information = 5

Uncertainty:

none

Conclusion and Rating Justification:

Based on the evidence provided above, the proposed rating for ***Discula destructiva*** is **C**.

References:

Blomquist, C. 2011. Dogwood Anthracnose. California Plant Pest and Disease Report. Pg. 42
https://www.cdfa.ca.gov/plant/ppd/PDF/CPDR_2011_25.pdf

Britton, K.O. 1993. Anthracnose infection of dogwood seedlings exposed to natural inoculum in western North Carolina. Plant Dis. 77: 34 –37.

CABI 2020. *Discula destructiva* (anthracnose of dogwood). CABI Compendium
<https://doi.org/10.1079/cabicompendium.20079> accessed 6/8/26

Colby, D. M., Windham, M. T., and Grant, J. F. 1995. *Hippodamia convergens* (Coleoptera: Coccinellidae) Dissemination of dogwood anthracnose fungus (Melanconiales: Melaconiaceae). Environmental Entomology 24:1075-1079

Daughtrey, M.L., Hibben, C.R., and Hudler, G.W., 1988. Cause and control of dogwood anthracnose in the northeastern United States. Arboriculture & Urban Forestry (AUF), 14(6), pp.159-164.

Daughtrey, M.L., Hibben, C.R., Britton, K.O., Windham, M.T., and Redlin, S.C. 1996. Dogwood Anthracnose: Understanding a disease new to North America. Plant Disease. 80:349-358

EPPO Database. 2026. *Discula destructive*. <https://gd.eppo.int/taxon/DISCDE>. Accessed 6/8/2026

Farr, D.F., Rossman, A.Y., and Castlebury, L.A. 2026. United States National Fungal Databases. USDA ARS Mycology and Nematology Genetic Diversity and Biological Laboratory. Retrieved June 08, 2026, from <https://fungi.ars.usda.gov>.

French, A. M. 1989. California plant disease host index. CA Division of Plant Industry. 2nd Ed. 394 pg

Redlin, S.C., 1991. *Discula destructiva* sp. nov., cause of dogwood anthracnose. Mycologia, 83(5), pp.633-642.

Sherald, J.L., Stidham, T.M., Hadidian, J.M., and Hoeldtke, J.E., 1996. Progression of the dogwood anthracnose epidemic and the status of flowering dogwood in Catoctin Mountain Park. Plant Disease: 80:310-312

Trigiano, R.N., Caetano-Anollés, G., Bassam, B.J., and Windham, M.T., 1995. DNA amplification fingerprinting provides evidence that *Discula destructiva*, the cause of dogwood anthracnose in North America, is an introduced pathogen. Mycologia, 87(4), pp.490-500.

USDA Phytosanitary Certificate Issuance and Tracking System, Phytosanitary Export Database (PEXD) Harmful Organisms Database Report. *Discula destructive*. Accessed 6/8/2026.

Responsible Party:

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***Comment Period: 06/25/2026 through 08/09/2026**

***NOTE:**

You must be registered and logged in to post a comment. If you have registered and have not received the registration confirmation, please contact us at [permits\[@\]cdfa.ca.gov](mailto:permits[@]cdfa.ca.gov).

Comment Format:

- ❖ Comments should refer to the appropriate California Pest Rating Proposal Form subsection(s) being commented on, as shown below.

Example Comment:

Consequences of Introduction: 1. Climate/Host Interaction: [Your comment that relates to "Climate/Host Interaction" here.]

- ❖ Posted comments will not be able to be viewed immediately.
 - ❖ Comments may not be posted if they:
 - Contain inappropriate language which is not germane to the pest rating proposal;
 - Contains defamatory, false, inaccurate, abusive, obscene, pornographic, sexually oriented, threatening, racially offensive, discriminatory or illegal material;
 - Violates agency regulations prohibiting sexual harassment or other forms of discrimination;
 - Violates agency regulations prohibiting workplace violence, including threats.
 - ❖ Comments may be edited prior to posting to ensure they are entirely germane.
 - ❖ Posted comments shall be those which have been approved in content and posted to the website to be viewed, not just submitted.
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Pest Rating: C
