CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Profile for

Cercospora hydrangeae Ellis & Everh. (1892)
Cercospora leaf spot of hydrangea

Pest Rating: B

Kingdom: Fungi, Division: Ascomycota,
Class: Dothideomycetes, Order: Mycosphaerellales,
Family: Mycosphaerellaceae

Comment Period: 03/19/2026 through 05/03/2026

Initiating Event:

In 2000, a Santa Barbara County plant pathologist submitted a sample of *Hydrangea* leaves from an incoming shipment of nursery stock from Lancaster County, Pennsylvania, to CDFA's Plant Pest Diagnostics Center. *Cercospora hydrangeae* was isolated from the leaf spots and identified by CDFA plant pathologist Timothy Tidwell. He assigned a Q-rating. There were no additional detections until 2020, when San Luis Obispo County agricultural inspectors made two separate detections on *Hydrangea* macrophylla 'Endless Summer Bloomstruck' plants shipping from a nursery in Mecklenburg County, North Carolina. This pathogen has not been through the pest rating process. The risk to California from *Cercospora hydrangeae* is described herein, and a permanent rating is proposed.

History & Status:

Background:

Cercospora is one of the largest genera of hyphomycetes. Some have sexual stages classified in the genus *Mycospharella*, but many species have no known sexual stage (Crous et al., 2001). Cerco*spora* species cause leaf spot diseases on diverse hosts. Generally, *Cercospora* spp. were considered to be host specific at the level of the plant genus or family, and this concept has led to the description of a large number of species without many morphological differences. In his monograph of the genus *Cercospora*, Chupp (1954) accepted 1,419 species. In total, more than 3,000 species of *Cercospora* have been described, of which only 659 are recognized by Crous and Braun (2003).

Cercospora hydrangeae was first described in 1892 by Ellis and Everhart, based on specimens collected from infected *Hydrangea* leaves in Alabama. Their original description provided one of the earliest

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documentations of leaf spot diseases on ornamental plants (Atkinson, 1892). Modern taxonomic treatments, up to the present, have maintained *Cercospora hydrangeae* Ellis & Everh. as the accepted name, with no major revisions in the 20th century. A sexual stage of *C. hydrangeae* remains undocumented, consistent with the rarity of teleomorph reports for most species in the genus.

Hosts: Hydrangea angustisepala (*MonLongShou*), *H. arborescens* (smooth hydrangea), *H. macrophylla* (bigleaf hydrangea), *H. paniculata* (panicle hydrangea), *H. quercifolia* (oak leaf hydrangea), and *H. serrata* (mountain hydrangea), and *Malva verticillata* (Chinese mallow) (Rouse, 2017; Cleaveland, 2022; Farr and Rossman, 2026).

Symptoms: Symptoms typically emerge several days to two weeks after infection under favorable conditions of high humidity and moderate warmth (Smith, 2017). Leaf spots typically appear in midsummer on older leaves near the base of hydrangea plants. The spots are small and circular, measuring 1-3 mm in diameter. On bigleaf hydrangea, the spots are purple or brown, often developing a tan or light gray center surrounded by a distinctive purple or brown halo. On oakleaf hydrangea, the spots tend to be angular and dark brown to purple. As the disease progresses, the spots enlarge to 5-10 mm, becoming irregular or angular in shape, and may coalesce on heavily infected leaves. The centers of the spots often display tiny dark specks, which are fungal spores, and severely affected leaves can turn yellow-green. In advanced stages, the lesions may develop a shot-hole appearance as leaf tissue disintegrates, especially under conditions of frequent rainfall or overhead irrigation that promote spore spread (Baysal-Gurel et al., 2016; Rouse, 2017).

Transmission: Cercospora hydrangeae produces asexual conidia on specialized conidiophores within leaf spots on hydrangeas. Stromata are lacking. Conidia are airborne or splash dispersed. Moisture is a critical factor, requiring prolonged leaf wetness to enable spore germination and host tissue invasion, while relative humidity exceeding 90% promotes epidemic development by sustaining wet periods on foliage. Long-distance spread of *C. hydrangeae* primarily occurs via the international trade of infected planting material; hydrangeas are important plants in the global ornamental plant trade.

Damage Potential: At the plant level, *C. hydrangeae* infection leads to premature defoliation, particularly in late summer, reducing photosynthesis and overall vigor while causing significant aesthetic damage. The disease affects smooth, panicle, oakleaf, and bigleaf hydrangea varieties but rarely proves fatal, though repeated defoliation can impair flower bud formation and landscape value.

Worldwide Distribution: Africa: *Brunei Darussalam, Malawi, and Zimbabwe*; Americas: *Argentina, Brazil, United States* (Alabama, Florida, Oklahoma, the Southeastern states, Puerto Rico), *and Virgin Islands*; Asia: *China, Hong Kong, India, Japan, Malaysia, Myanmar, Philippines, South Korea, Taiwan, and Thailand*; Oceana: *Samoa* (Farr and Rossman, 2026).

Official Control*: Cercospora hydrangeae* is not under official control.

California Distribution: None

California Interceptions: Three interceptions have been made on incoming plant shipments, one from Pennsylvania and two from North Carolina (see Initiating events).

The risk that *Cercospora hydrangeae* would pose to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** Rainfall and overhead irrigation are major factors that play a pivotal role in symptom expression and intensity. Late summer rainfall can be a major contributor to defoliation and decline (Smith, 2017). Most of California's regions have dry summer conditions that should limit epidemics in landscapes. Warm, humid conditions in greenhouses could be highly conducive.

   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 primarily *Hydrangea* spp., with one record from Chinese mallow that remains exceptional.

   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:** *Cercospora hydrangeae* spreads with airborne spores. Hydrangeas are vegetatively propagated, and the disease can be spread in cuttings.

   Evaluate the natural and artificial dispersal potential of the pest.

   Score: 2

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

4) **Economic Impact:** Infected hydrangeas exhibit unsightly spotting and yellowing foliage, which reduces their aesthetic appeal and lowers their commercial value, often rendering plants unsuitable for sale without intervention.

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

   Economic Impact: B, D

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: **2**
- 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: This pathogen can impact ornamental plantings.

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

Environmental Impact: 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: 2
- 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 *Cercospora hydrangeae:* Medium

Add up the total score and include it here. **9**
-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 'Not established'.

Score: 0
-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 consequence 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* ***= 9***

Uncertainty:

none.

Conclusion and Rating Justification:

Based on the evidence provided above, the proposed rating for ***Cercospora hydrangeae*** **is B.**

References:

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Responsible Party:

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***Comment Period: 03/19/2026 through 05/03/2026**

***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.

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.

Pest Rating: B