



Arkansas Plant Health Clinic Newsletter

Follow us on social media



Oak

Cladogenesis

Homeowners are sometimes bewildered at finding branches from a mature tree littering the ground. It is not unusual for the Plant Health Clinic to receive tree branch samples that have fallen from the tree with all their leaves still green and healthy looking. Some tree species including larches, pines, poplars, willows, cottonwood, maples, walnut, ashes, bald cypress, and oaks are subject to Cladogenesis, ('self-cleaning' or 'natural pruning') during the growing season as a normal part of their physiology. Although twigs and small branches are usually involved, occasionally large branches may be shed. An abscission layer forms at the base of the branch, shutting off the flow of water and sugars. Cladogenesis often occurs every year in these species. The number of branches shed typically increases with the age of the tree. There is evidence that cladogenesis may occur to remove less vigorous foliage or foliage which is disadvantaged. Foliage that is disadvantaged may occur on those branches whose ability to photosynthesize is impeded by too much shade or lack of enough water and nutrients to support

the abundant amount of foliage produced in the spring. Disease, drought, and soil compaction may also play a role. These issues are likely more common in mature, older trees or in trees under stress. Cladogenesis is generally not a cause for concern, though it is always recommended that tree stress be minimized through good cultural practices of a regular watering and fertilization regime.

Oak Cladogenesis-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Oak Cladogenesis-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.



Oak Anthracnose

Several different fungi cause oak anthracnose: *Apiognomonia quercina* or *Elsinoe quercus*. All species of oak are susceptible, with white oak being the most susceptible. Symptoms of anthracnose are necrotic, irregularly shaped lesions along the veins and margins of the leaves, puckering, curling, and leaf distortion. Newly emerging leaves in the spring are the most susceptible. Spores from twigs that were infected the previous season are splashed onto the new growth. Older leaves are more resistant but may develop small brown lesions in the summer during prolonged wet weather. Twig death and defoliation may occur if infection is severe. The tree will usually put on new leaves to replace those lost. Spot anthracnose caused by *Elsinoe quercus* attacks the foliage of red oaks. The lesions are small, about 1mm, blackish brown with a lighter color in the center of the lesion. Leaves with severe infections will yellow and fall prematurely. It is rare for Oak anthracnose to cause permanent damage to healthy trees. Control consists mainly of good sanitation. Leaves should be raked and removed from the planting in the fall. Trees that have been defoliated for consecutive seasons may benefit from fungicide applications. Applications should begin at bud break in the spring. Fungicides labeled for oaks include Cleary's 3336 (thiophanate-methyl), Mancozeb, and copper. Additionally, products containing chlorothalonil may be used on red oaks.

Oak Anthracnose-*Apiognomonia quercina*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Oak Anthracnose-*Apiognomonia quercina*

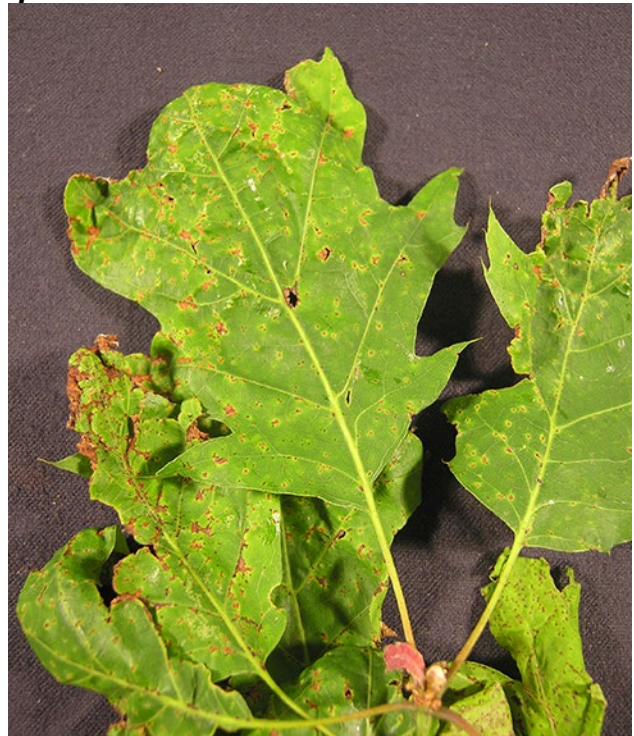


Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Leyland Cypress

We no longer recommend Leyland cypress as a landscape plant in Arkansas due to the inevitable Cypress Canker, caused by species of *Seiridium* and *Botryosphaeria*. Cypress Canker is the most devastating disease of Leyland's in the mid-south. Other cypress species such as Arizona cypress, Italian cypress, Mediterranean cypress, and Monterey cypress are also susceptible. Plants of any age may be affected. The first noticeable symptom of the disease is yellowing of the foliage on a few twigs, followed by browning. Death of individual twigs and branches is due to the formation of cankers on them. Lens shaped cankers are gray colored but often obscured by resinous sap weeping from the lesion. Small black fruiting bodies appear on the bark. Rain, tools, birds, and insects spread the spores. Long distance spread can occur through the transport of infected cuttings or plants. Once the trunk is girdled by cankers, death comes quickly as the cankers interfere with water flow. No chemicals are labeled for *Seiridium* Canker. The best defense is sanitation. Prune out branch and twig cankers. Pruning tools should be dipped in a 10% bleach solution (one-cup bleach to nine cups water) between cuts. If the main trunk has cankers, remove the entire tree. Dead trees and clippings need to be removed from the property. *Seiridium* Canker tends to be associated with trees suffering from winter damage, drought, or other environmental stresses. Drought plays a large part in the severity of cypress canker. Studies have shown that the disease progresses 3 times faster during drought episodes. Thoroughly soak the

soil every 5-7 days during drought. Avoid sprinkler watering. Leyland hedges fare worse with *Seiridium* because of poor air circulation. A lone specimen tree is not as prone to the disease. Junipers, Arborvitae, Bald cypress, Chamaecyparis, and Cryptomeria are among others also susceptible to *Seiridium* Canker.

Cypress Canker-*Seiridium cardinale*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Cypress Canker-*Seiridium cardinale*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

"This work is supported by the Crop Protection and Pest Management Program [grant no. 2017-70006-27279/project accession no. 1013890] from the USDA National Institute of Food and Agriculture."

Cypress Canker-*Seiridium cardinale*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension