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Anthracnose disease of trees

Josephine Mgbечи-Ezeri and Caroline Jackson, Plant Diagnostic Clinic, University of Missouri

What is going on with the sycamore trees this year? Have you all gotten calls about a lot of die back on leaves? These are some of the questions the plant diagnostic clinic has been getting lately in addition to physical samples submitted for diagnosis. The prolonged cool and wet conditions in Missouri this spring have been favorable for the pathogens that cause anthracnose disease on shade trees. Anthracnose is a general term for fungal diseases that attack shade trees and shrubs expressing a black or brown necrotic lesions on leaves. The disease causes deformation of leaves around the lesion area and in the case of severe infection can cause complete defoliation of the tree. The fungal pathogens associated with anthracnose diseases are morphologically related however, they are host specific. Trees that are commonly affected include elm, ash, white oak, sycamore, maple, walnut, and dogwood (Figures 1 to 6).

The disease pathogens overwinter in infected plant material. As the temperature begins to warm up in late winter to early spring, the fungus becomes active, producing spores that are dispersed by rain and wind on newly emerging leaves. The spores initiate infection in the leaves. Later in summer under favorable conditions, a new generation of spores reproduce and cause continuous infection on the leaves. The symptoms expressed and severity of infection depends on the host as well as the environmental conditions. Although the disease causes defoliation, it does not have any serious impact on tree health. However, in the case of severe infection and defoliation occurring in multiple years, it can weaken the tree and increase vulnerability to other diseases and pests.

Disease management

Anthracnose disease of shade trees is mostly a cosmetic problem, thus chemical control is not warranted. Cultural and sanitation practices such as planting resistant varieties, pruning dead or dying branches and raking fallen plant debris will help to reduce inoculum. Select a good site with good air circulation and sun penetration. Provide adequate nutrient and water when necessary to improve plant vigor.

For appropriate diagnosis, the MU Plant Diagnostic Clinic can help you confirm if your plant has this disease. Please visit our website <http://plantclinic.missouri.edu/> and follow the instructions for collecting, packaging and shipping samples to the clinic.

For additional information on anthracnose diseases of shade trees, please refer to the publication by University of Illinois Extension. <http://ipm.illinois.edu/diseases/series600/rpd621/index.html>



Figure 1. Symptom of anthracnose disease on ash leaves. (Photo credit: MU-Plant Diagnostic Clinic)



Figure 2. Symptom of anthracnose disease on white oak (Photo credit: Joseph O'Brien, USDA Forest Service, Bugwood.org)



Figure 3. Symptom of anthracnose disease on sycamore (Photo credit: Robert L. Anderson, USDA Forest Service, Bugwood.org)



Figure 4. Symptom of anthracnose disease on maple (Photo credit: Paul Bachi, University of Kentucky Research and Education Center, Bugwood.org)



Figure 5. Symptom of anthracnose disease on black walnut (Photo credit: Lorraine Graney, Bartlett Tree Experts Bugwood.org)



Figure 6. Symptom of anthracnose disease on dogwood (Photo credit: John Hartman, University of Kentucky, Bugwood.org)