

Anthracnose on Maple Tree

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Plant Diagnostic Clinic

The MU Plant Diagnostic Clinic recently received a maple leaf sample with dry, dark brown irregular spots that follow the leaf veins. After examination, we confirmed that the symptoms match the anthracnose disease, which could be caused by several different fungi. While the sample we received is from a maple tree, this disease infects a wide range of hosts throughout the US.



Figure 1. Leaf blotch along the veins and margins Photo: Peng Tian

Symptoms and Signs: This disease affects new, younger leaves when they have a thin layer of water on them (Figure 1). The symptoms are dark brown blotches or spots that are vein-associated and irregular in size and shape. They are often confused with heat stress or drought, because both symptoms have scorch marks. The young infected leaves curl or cup in response to the disease, while mature leaves do not. Infection normally occurs when the younger leaves are starting to grow and are wet. Infection is more severe on the lower branches where there is more humidity. Severely infected trees can lose their leaves early in the spring and will develop new leaves in midsummer. Anthracnose may be a more serious concern if the hosts are not well established or are suffering from environmental stresses (drought, heat, or winter injury). Although this disease does not kill the host, numerous seasons of infections causing defoliation may greatly reduce the overall growth of the tree.

Life Cycle: Anthracnose fungi overwinter on the fallen leaves of the tree, and re-infect the host in the following year through rain splash or wind. This disease favors cool and moist conditions during the spring (50-68 °F). When the conditions are favorable, this disease can affect other trees nearby.

Host range and damage: Trees that are most commonly targeted by anthracnose are maple, ash, oak, sycamores, and walnuts. While several different fungi cause anthracnose, these fungi are host specific. The fungi that affect maple aren't the same fungi that affect ash. For many trees, anthracnose is simply a cosmetic disease. However, it can cause early spring defoliation that may be hard on younger or unestablished trees.

Disease Management:

1. **Collect and discard dead leaves in the fall.** Infected leaves are sources of re-infection in the spring.
2. **Trim off dead branches.** This will ensure that new growth isn't exposed to the disease. Make sure to clean shears in-between cuts to not spread the disease further.
3. **Ensure good air circulation.** This will promote the leaves to dry out quicker and reduce the amount of time the leaves are susceptible to inoculation.
4. **Keep the tree healthy.** Water in the dry seasons and fertilize regularly, especially in the early spring or late fall.
5. **Spray with a copper or chlorothalonil (Daconil) fungicide.** Fungicide may be used if tree is very susceptible. Spray the fungicide when leaves are beginning to emerge in the spring and reapply it at 7-10 day intervals for two or three more applications. Fungicides may be more needed for younger or newly transplanted trees that may not be able to withstand the repetitive spring leaf drops. Fungicides are preventive, but not curative, so they must be applied before spotting or signs of infection occurs.

References:

1. **Anthracnose of Trees**, Missouri Botanical Garden
<https://www.missouribotanicalgarden.org/gardens-gardening/your-garden/help-for-the-home-gardener/advice-tips-resources/pests-and-problems/diseases/anthracnose/anthracnose-of-trees.aspx>
2. **Anthracnose**, University of Wisconsin-Madison, Wisconsin Horticulture
<https://hort.extension.wisc.edu/articles/anthracnose/>
3. **Anthracnose of shade trees**, University of Minnesota Extension
<https://extension.umn.edu/plant-diseases/anthracnose-trees-and-shrubs>
4. **Common Diseases of Maple**, The Connecticut Agricultural Experiment Station
<https://portal.ct.gov/CAES/Fact-Sheets/Plant-Pathology/Common-Diseases-of-Maple#:~:text=Causal%20Agents%3A%20Several%20genera%20of,of%20maple%20and%20the%20fungus.&text=When%20infection%20is%20severe%2C%20the,blighted%2C%20browned%2C%20and%20shriveled.>
5. **Maple (*Acer* spp.) Anthracnose**, Pacific Northwest Pest Management Handbook
<https://pnwhandbooks.org/plantdisease/host-disease/maple-acer-spp-anthracnose>

For appropriate diagnosis, the MU Plant Diagnostic Clinic can help you confirm if your plant has this disease. We encourage you to visit our website (<https://extension.missouri.edu/programs/plant-diagnostic-clinic>) and review submission guidelines before submitting your sample. If possible, you may take photos and send them to plantclinic@missouri.edu.

We just uploaded a new webinar about sample submission guidelines on YouTube to help you submit your sample step by step. Please click here: <https://www.youtube.com/watch?v=4dUcYKKFwal>

For sample submission and fee payment, you can either:

- 1) Visit our new online submission system at <https://extension.missouri.edu/services/plant-disease-sample>. Fill out the submission form online using your computer or mobile device and make payment online securely with a credit card.
- 2) Download the submission form at <https://extension.missouri.edu/programs/plant-diagnostic-clinic/sample-submission>. Fill it out and send to us together with your sample and payment. Check or money order. No cash please.

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