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HORTICULTURE EDUCATION

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Foliar Diseases Affect Certain Trees Causing Leaf Drop
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Noticing leaves on the ground under ash and maple trees causes us to look up into the trees where spots are seen on the leaves. Eventually, the affected tree leaves fall off and litter the ground. Anthracnose is a common spring fungal disease causing these blotches. This year, maple leaf blister and Phyllosticta leaf spot have also appearedon maples. Dr. Nicole Ward, University of Kentucky Plant Pathology Extension Specialist, and Julie Beale and Sara Long, University of Kentucky Plant Disease Diagnosticians, provide information about these diseases and management.

The term anthracnose refers to the symptoms of dark blotching and leaf distortion. Leaves drop from the tree during severe infections. A new flush of leaves may immediately follow.

Anthracnose diseases on different species of trees are not caused by the same fungi. The pathogens that cause the disease are host-specific, meaning the anthracnose pathogen on ash will

not infect maple and so on. The appearance of the blackened area and severity of disease differs with each host tree and weather conditions.

Even though different, the fungal pathogens that cause anthracnose diseases have similar life cycles. Spore production occurs during periods of spring rain. Anthracnose fungi release spores to infect deciduous trees when leaves emerge. Mature leaves are resistant to infection, but slow leaf emergence in spring exposes tender leaves to fungal spores for an extended time.

Ash anthracnose, caused by *Discula umbrinella,* infects buds, leaves, and sometimes twigs. In early spring, infection of buds or expanding leaves results in irregular brown blotches and leaflet distortion. These blotches are frequently associated with leaf margins. Infections that occur once leaves have expanded result in small, brown, circular lesions. As these lesions enlarge, they may combine forming one big brown area. Infected leaflets often drop. Although shoots may become stunted, infection on ash does not result in obvious twig or branch cankers.

Maple anthracnose symptoms begin as leaf spots with dead tissue and may progress into shoot blight and shoot cankers. The way the disease looks on the leaves varies in size and shape depending on the maple species. At least two different anthracnose fungi may be involved, *Discula* sp. and *Kabatiella apocrypta*. On Norway maple, lesions or spots are purple to brown and follow the veins. Leaves of Japanese maple blacken and shrivel up. Brown to reddish brown lesions form along or between veins of sugar maple. Symptoms on sugar maple can be confused with scorch symptoms. Twig infections result in blighting and death of shoot tips.

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The two pathogens of maple trees, maple leaf blister (*Taphrina carveri*) and Phyllosticta leaf spot (*Phyllosticta minima*), prefer the same cool and wet weather conditions and young emerging leaves as the anthracnose pathogens.

Leaf blister looks like black spotting to scorch symptoms on the leaves. The black spotting is scattered over the leaves and along the leaf veins. The infected leaves may drop off the tree. Red maple, silver maples, and their hybrids are commonly affected by this disease. New leaves emerging later in the spring to summer avoid infection due to warmer and drier conditions.

Phyllosticta leaf spot on maples, especially Japanese, red, silver and sugar maples, appear as circular brown spots and may appear on the same leaves as the other diseases. The leaf spot may have an irregular circular dead spot that is usually less than 0.25 inch across bordered by a purple color. This fungal pathogen may continue to infect more leaves during the growing season if weather conditions are right for disease development.

For most trees, anthracnose, leaf blister, and Phyllosticta leaf spot do little harm to overall tree health. With anthracnose, persistent rains and disease spread can lead to infection of twigs and branches during cool weather.

Good cultural practices are important to reduce disease. Remember to rake and destroy fallen leaves, as they can be a source of fungal spores. Do not compost infected leaves. Remove and destroy dead twigs and branches that serve as an overwintering site for the fungi.

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Protect trees from dry weather and drought. Water the trees at least once a week during hot, dry months using soaker hoses or drip irrigation, applying 1 inch of water weekly. Avoid overhead sprinklers; wet foliage favors sporulation and infection.

Fungicides are usually not recommended to manage these foliar diseases. They can be costly, and it is difficult to effectively cover large trees. These products are protectants and therefore must be applied before an infection occurs. Once symptoms develop, it is too late to apply fungicides.

For more information about spring diseases on shade tree leaves, contact the Daviess County Cooperative Extension Service at 270-685-8480 or annette.heisdorffer@uky.edu.

Annette's Tip:

Join us at the Daviess County Cooperative Extension Service Open House on Tuesday, May 20 from 5:00 – 7:00 p.m. Learn about the educational programs offered for all ages, view the Extension Master Gardener Demonstration Vegetable Garden and Monarch Waystation, discover 4-H programs for youth, ask about canning produce, investigate agriculture, and much more. Free food and giveaways available while supplies last.

Upcoming Event:

Tick bite prevention, alpha-gal basics, and diet and lifestyle management with alpha-gal will be presented in the program "Living with Alpha-gal Syndrome" on Thursday, May 29 at 6:00 p.m. to 7:30 p.m. through a webinar watched at home by registering at https://ukfcs.net/AgS or through a watch group at the OCTC Technical Building Room 100 by calling the Daviess County Cooperative Extension Service Office at 270-685-8480 to reserve a seat.

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