FactSheet Extension

Ohio State University Extension Fact Sheet

Entomology

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Anthracnose Leaf Blight of Shade Trees

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A number of different trees are affected by anthracnose diseases. These fungal diseases can cause severe leaf blighting and deformation, but in many cases damage to plant health is not severe. However, with sycamore anthracnose and dogwood anthracnose, the fungus regularly moves back into stem tissue and causes more significant problems. Following are profiles of some of the more common anthracnose diseases of landscape trees.

Maple Anthracnose. Pathogens: *Discula spp.*, *Kabatiella apocrypta*

Anthracnose diseases are generally not severe on maple, but can cause considerable unsightliness from brownish leaf blotches and some leaf drop when moist weather conditions make the disease particularly severe. Extensive development of stem infections is not common on maples, as it is with sycamore anthracnose and dogwood anthracnose.

Anthracnose on maple leaf.

The most common symptoms include brownish discoloration along veins, varying from discrete spots to irregular patches of discoloration bordered by veins. Spore masses of the fungus can sometimes be found on lower leaf surfaces along veins during extended moist conditions. The fungus spreads from previously infected tissue in spring to new growth. Where fungicides are used, applications must be started at bud break and continued during early leaf development. When fungicides are required, use labeled products containing mancozeb, thiophanate-methyl, or chlorothalonil.

Ash Anthracnose. Pathogen: *Apiognomonia errabunda*

This anthracnose disease is primarily a leaf blighting and blotching disease of white ash and, to a lesser extent, green ash. Small twig cankers do occur and the fungus overwinters on these twig lesions, but little damage occurs from this phase of the disease. In wet, cool spring conditions, leaves and sometimes shoots first develop water soaked areas and later large tannish blotches and leaflet distortion.
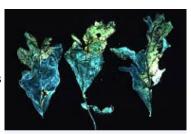

Anthracnose on ash leaf.

Considerable leaf drop occurs, especially from lower areas of the canopy. Though this causes concern when leaves litter the ground in late spring, damage to overall plant health is not generally severe and plants typically releaf. As leaves mature they tend to become more resistant to infection. Fungicide applications, if warranted, should be made at bud break, with several repeat applications early in the season. When fungicide is required, use a labeled material containing thiophanate-methyl, chlorothalonil, or mancozeb.

Oak Anthracnose. Pathogen: *Apiognomonia quercina*

White oaks are the most susceptible of many oak species to this leaf blotching disease. Twig infections occur but are not significant except as sources of overwintering fungal inoculum from year to year. Leaves and shoots are infected during cool, wet spring conditions causing leaf blotches that often are strictly delimited by leaf veins. Eventually, lesions become a papery tan color and some leaf shriveling occurs. Multiple cycles of infection can occur. Just as leaves near maturity, lesion size lessens, and once leaves mature they become fully resistant by early to mid summer. Fungicides are generally not recommended. If fungicide is required, use a labeled material containing thiophanate-methyl, chlorothalonil or mancozeb.

Anthracnose on oak leaves.

Sycamore Anthracnose. Pathogen: *Apiognomonia veneta*

This is a potentially serious disease of American sycamore and to a lesser extent London planetree. Susceptibility of London planetree varies considerably with seed source. Shoot blight, leaf blight and twig and branch cankers and dieback can be severe. The fungus overwinters on twig tissue on the tree with spores splashing to new buds, shoots and leaves in the spring, with disease being enhanced by cool, wet conditions during shoot and leaf development. Considerable defoliation, sometimes with complete leaf loss, occurs on many trees by late spring in some years.

Trees typically releaf by early to mid summer and are less susceptible to continued infections because of warmer, drier conditions. Also, as leaves age they become less susceptible to infection. With repeated infections over the years, cankering of twigs and branches can result in erratic shoot growth that gives an overall distorted appearance to the tree, and also witches-brooming where there are numerous side shoots that develop around a central terminal shoot that was killed by the fungus. Fungicide applications to prevent infections in the spring are sometimes warranted. If fungicide is required, use a labeled material containing thiophanate-methyl, chlorothalonil or mancozeb. Fungicide injections (which are made by tree care professionals) are also used in spring and fall to systemically control the disease.

Anthracnose on sycamore leaf.

Dogwood Anthracnose. Pathogen: *Discula destructiva*

In recent years this disease has become prominent in certain areas, especially on flowering dogwood (Cornus florida). Dogwood anthracnose is most severe where cool, moist conditions occur during the summer, such as in higher elevation areas, and in densely vegetated shady sites with poor air movement. Leaf symptoms include irregular brown blotches bordered in purple on upper leaf surfaces (tan in color viewed from the leaf underside). Leaf lesions often are delimited by the leaf midvein.

Stem symptoms include twig dieback and stem cankering and dieback, often with visible fungal fruiting bodies on dead twigs. Attached wilted, brown leaves often persist into the next spring instead of dropping in the fall. Plants may be killed. Fungal infections occur during moist conditions and fungicides are recommended in the spring from the period of early bud break through bract fall and through early leaf development. When fungicide is required, use a labeled product containing propiconazole or mancozeb. Flowering dogwood should be planted in sites with good soil drainage and adequate organic matter. Partially shaded sites, such as those with just morning sun are ideal. Plants should receive a moderate fertility program, and should be mulched to moderate fluctuations in soil temperatures. Dead branches should be promptly pruned from the plant.
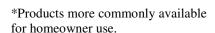

Closeup of damage caused by sycamore anthracnose.

Control of Anthracnose Diseases

1. Overall tree care program. Use proper fertilization, pruning, watering, and pest control practices to encourage vigorous plant growth. This aids in general tolerance of the effects of disease and in rapid refoliation in years where disease is severe.
2. Fungicide applications. If significant damage occurs yearly and controls are justified, properly applied fungicides may reduce damage from these diseases. High pressure spray equipment will be needed for large tree applications, and this typically requires the hiring of a professional tree care service.

   Fungicides will not be effective unless they are applied before and during infection periods. Typically, three applications are necessary, beginning in early spring, with the first application made before leaf buds open. Applications in the fall have been shown to be useful for sycamore anthracnose control. Fungicide injections have also shown promise for sycamore anthracnose control. These must be applied by professional tree care companies.

Some common product names containing the fungicides mentioned above include: mancozeb (Fore, Dithane, Mancozeb), chlorothalonil (Daconil*, Bravo, otho-multipurpose fungicide*), thiophanate-methyl (Cleary's 3336, Domain) and propiconazole (Banner).

*Products more commonly available for homeowner use.

Anthracnose on dogwood leaves.

General defoliation of sycamore caused by anthracnose.