Anthracnose of Shade Trees

Paul C. Pecknold
Anthracnose of Shade Trees
Paul C. Pecknold, Extension Plant Pathologist

One of the most common and unsightly shade tree diseases to greet Indiana homeowners in spring is anthracnose. Anthracnose is a fungus-caused plant disease, which becomes severe when cool, wet spring weather persists during the time leaves are first emerging. Those trees most commonly affected are ash, oak (white), maple and sycamore.

Symptoms

You can readily distinguish anthracnose from other leaf-spotting diseases, physiological scorch, and various other leaf ailments by observing where infection occurs. Lesions are associated with the mid-ribs and veins of the leaf. Brown, dead tissue will often extend to the leaf margin or between veins, but a close proximity with leaf veinal tissue is generally evident, especially on oak and sycamore.

Symptoms and effects most often observed are listed below:

Ash – Large irregular brown areas occur along the edges of the leaves. Premature leaf fall is common if infection is severe.

Severe defoliation caused by Sycamore Anthracnose.
Maple -- Symptoms vary somewhat depending upon species of maple. On Norway maple, symptoms are seen as narrow purple to brown bands of discolored tissue along the leaf veins. On sugar maple, brown or reddish brown areas occur along or between the veins of the leaves. On Japanese maple, anthracnose often affects the entire leaf, which becomes blackened and shriveled. Frequently, maple anthracnose is more severe on the lower branches of the tree. Partial defoliation may result.

Oak -- While most species of oak are affected by anthracnose, it is common only on white oak. In Indiana it is of little consequence on species in the red oak group. On white oak, anthracnose will cause irregular brown areas which commonly follow the veins to the leaf margin. Often leaves become curled and twisted, and fall prematurely. The disease is often most prominent on lower branches of the tree.

Sycamore -- The two most obvious symptoms of anthracnose on sycamore are shoot blight and leaf blight. Shoot blight results in a sudden dying of young expanding leaves, resembling and often confused with frost injury. Leaf blight appears as large, irregular, brown areas along mid-ribs and veins.

Cause

Anthracnose is caused by several closely related fungi. During winter these fungi reside in fallen leaves and cankers produced on branches. It is from these over-wintering sources that new batches of infectious spores are produced each spring. The fungi associated with those trees listed are as follows: Ash--Gloeosporium aridum; Maple--Gloeosporium apocryphum; Oak--Gnomonia quercina; and Sycamore--Gnomonia platani.

Control

Anthracnose of shade trees generally does not permanently damage a tree. Severe defoliation however for 2 or 3 successive years can weaken a tree to a point that it becomes susceptible to winter or drought injury leading to a progressive die-back.

The following practices will help control anthracnose or alleviate the problem once it has occurred:

1. Rake and destroy leaves and twigs in the fall to reduce the disease potential for the following spring. If feasible, prune out cankered and/or injured branches.

2. Fertilize affected trees in early spring to maintain vigor and promote new foliar growth. Use a complete fertilizer such as 10-6-4.

3. Fungicides, if applied at the proper time and in the proper amount, will help reduce damage from anthracnose. In most cases, chemical spraying should be done by professional arborists because of tree size and the need for high pressure spray equipment. Home garden sprayers are adequate for smaller, recently planted trees where good chemical coverage is possible.

Timing of fungicide application is critical since the fungicide acts as a protectant and must be present before the disease -- not after. Generally three applications are necessary. Apply the first spray in the dormant stage before buds begin to swell. Apply a second spray when buds are showing green at the tip. Apply the third spray when the leaves are about half-grown.

The following fungicides are registered for use in controlling anthracnose on the respective tree listed:

Ash -- No effective fungicide is legally cleared for this tree.
Maple -- Bordeaux mixture 4-4-100.
Oak -- Bordeaux mixture 4-4-100.

OR
Zineb 75% WP (Dithane Z-78, etc.) at the rate of 1-1/3 tablespoons per gallon of water (2 pounds per 100 gallons).

Sycamore -- Bordeaux mixture 4-4-100.

OR
Zineb 75% WP (Dithane Z-78, etc ) at the rate of 1-1/3 tablespoons per gallon of water (2 pounds per 100 gallons).

OR
Dodicne 65% WP (Cyprate) at the rate of 2/3 tablespoon per gallon of water (1 pound per 100 gallons). Recent tests show dodine to give best control of sycamore anthracnose.