Anthracnose Of Shade Trees

UTAH PESTS fact sheet

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Sherman V. Thomson/Extension Plant Pathologist
Scott C. Ockey/Plant Disease Diagnostician

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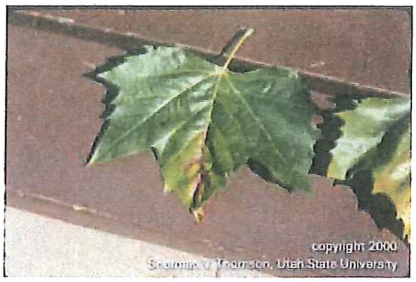
Anthracnose is a fungal disease common throughout Utah on Maple, Sycamore, Oak and Ash. Although in most years it does not cause significant damage, it can be very destructive during years when extended cool wet spring conditions occur. Consecutive years with conditions conducive to disease can seriously weaken trees and may cause death if the conditions persist and control measures are not implemented.



Characteristic tissue chlorosis and brown necrotic lesions along the veins of Sycamore leaves.

Causal Organisms

The group of fungi that cause anthracnose produce spore bearing structures called acervuli. The acervuli erupt through the plant tissue and are evident as small black dots on twigs. The fungi that cause anthracnose are *Kabatiella apocrypta* in Maple, *Apiognomonia veneta* in Sycamore, *A. quercina* in Oak and *A. errabunda* in Ash.

Dark colored fungal reproductive bodies (Pycnidia) forms on woody tissue of trees infected with Anthracnose causing fungi. Pycnidia can often be found on affected twigs and branches.

Symptoms

The first symptoms occur on leaves as small water soaked lesions. They are usually found along main veins of leaves, but can also occur between the veins. The spots enlarge and eventually turn tan, reddish-brown or black, depending on the species and cultivar of tree affected. Acervuli are then produced by the fungus in the necrotic tissue. Sycamore leaves can become infected as they emerge from buds resulting in blighting of the entire leaf cluster.

Infections on twigs and branches initially appear as discolored depressed areas in the bark followed by splitting bark. Severe infections may even result in death of small branches. Cankers usually develop raised margins resulting from the healing process in the tree. Sycamore branch infections result in multiple lateral shoots called witches brooms.

Mature sycamore trees with severe anthracnose. Trees may be defoliated by mid to late summer depending on severity of infection.

Disease Cycle

The fungi overwinter in fallen leaves, petioles, twigs or branches. Under cool moist spring conditions the fungi mature and produce spores that are dispersed by wind and rain. Spores that contact susceptible host tissue infect and grow throughout the adjacent tissue leading to the

characteristic leaf spot symptoms.

Control

Cultural controls are only marginally effective for anthracnose and are mostly aimed at sanitation by reducing overwintering sites of the fungi. The effectiveness of sanitation is often minimal because there are many external sources of spores that are blown into the area. Cultural controls should be considered if the tree or adjacent trees have a history of anthracnose. Recommended cultural controls include:

1. Rake and destroy fallen leaves.
2. Prune out and destroy infected twigs and branches.
3. Maintain tree vigor with adequate water and fertilization.
4. Plant resistant cultivars. Sycamore cultivars Bloodgood, Columbia and Liberty are reported to be resistant. Check with your local nursery for resistance information regarding other tree species.

It is usually not necessary to use chemicals to control anthracnose because the fungus only infects when wet conditions persist. Most trees can withstand occasional infections without any serious damage. However Chemical controls should be implemented in addition to the cultural controls when cool, wet spring weather occurs year after year. Chemical applications should begin at bud swell and continue at labeled rates and intervals during wet weather. Table 1 lists registered chemicals for control of anthracnose on Maple, Sycamore, Oak and Ash. Be sure to check the label for specific information about labeled uses and rates.

Table 1 Registered products as of January 2000.

Chemical		Rate	Notes
Banner MAXX	Maple	5 to 8 fl oz/100gal water	24 hour re-entry
	Sycamore	6 to 8 fl oz/100gal water	24 hour re-entry
	Oak	16 oz/100gal water	Test on small portion of tree before complete application. 24 hour re-entry.
Champ Formula 2	Sycamore	1.3 to 2 pints/Acre	24 hour re-entry
Cleary's 3336 WP	Maple	12 to 16 oz/100 gal water	12 hour re-entry
	Sycamore	12 to 16 oz/100 gal water	Apply resistance management strategies. Alternate fungicides. 12 hour re-entry
	Oak	12 to 16 oz/100 gal water	12 hour re-entry
	Ash	12 to 16 oz/100 gal water	12 hour re-entry
	Maple		Daconil 12.5% can be

Daconil Weather Stik	Sycamore Oak Ash	1.4 pints/100 gal water	used on Sycamore and Ash in home gardens. 48 hour re-entry.
Fore (80%mancozeb)	Maple Oak Ash	1.5 lb/100 gal water	24 hour re-entry
Kocide DF	Sycamore	2 to 3 lb/Acre	24 hour re-entry
Nu-Cop 50DF	Sycamore	2 to 3 lb/100 gal water	24 hour re-entry
Bayleton	**Consult current label for this fungicide before use.**		

Precautionary Statement: All pesticides have benefits and risks, however following the label will maximize the benefits and reduce risks. Pay attention to the directions for use and follow precautionary statements. Pesticide labels are considered legal documents containing instructions and limitations. Inconsistent use of the product or disregarding the label is a violation of both federal and state laws. The pesticide applicator is legally responsible for proper use. This publication is issued in furtherance of Cooperative Extension work. Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Vice President for Extension and Agriculture, Utah State University.