



Extension FactSheet

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Leaf Diseases on Ornamental Trees and Shrubs

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A number of leaf spotting or blotching diseases occur on trees and shrubs. Some of these are severe to plant health or aesthetics, such as rose black spot and scab on crabapple, but many are of minor effect. Following are descriptions of several of the more common leaf spot and leaf blotch diseases.

Frogeye Leaf Spot of Crabapple. Pathogen: *Botryosphaeria obtusa*

This leafspot disease is a minor problem on most crabapples, although a few exhibit considerable leaf yellowing and leaf drop in some locations, including 'Madonna' and 'Professor Sprenger.' During moist spring weather the fungus infects leaf tissue and causes small roundish brown spots with purple borders. In some cases spots enlarge developing irregular lobes that, when they enclose the original roundish spots, cause a "frogeye" symptom. Blackish pimple-like fungal fruiting bodies may develop inside the lesions.

In addition to the leaf yellowing and defoliation that can occur on particularly susceptible cultivars, black rot cankers can develop

on stems over the years, especially on crabapples weakened by winter injury and other environmental stresses. In the rare cases when fungicides are warranted, begin sprays at budbreak. When fungicides are used, apply labeled products containing mancozeb or chlorothalonil.

Oak Leaf Blister. Pathogen: *Taphrina caerulescens*

This is a minor disease in the northern states, occurring on both the red oak and white oak groups. Symptoms include light green to yellowish blister-like, roughly circular bulges on upper leaf surfaces (depressions as viewed from the lower leaf surface). These blisters tend to brown as the season progresses.

Spores overwinter on leaf buds and infect leaves as they open. This is the only infection that occurs each season, and leaves become resistant to infection as they mature. Mild, moist spring conditions favor infections. Controls are generally not warranted and fungicide recommendations are rarely made except in certain nursery/garden center situations in which fungicides are applied dormant before leaves emerge in the spring. When fungicides



Figure 1. Frogeye leafspot on crabapple leaf.



Figure 2. Oak leaf blister on oak leaf.

are required, use a labeled fungicide containing chlorothalonil, mancozeb or thiophanate-methyl.

Downy mildew of cranberrybush viburnum.

Pathogen: *Plasmopara viburni*

This is one of the relatively few significant downy mildew diseases of ornamentals. Spores produced in dead plant tissue that overwinters splashes to foliage in the new season, causing patchy lesions on upper leaf surfaces and downy grayish-white fungal growth on lower leaf surfaces corresponding to these lesions. Damage starts out with light greenish spots that grow together forming angular patches often bordered by veins. Leaf tissue in the blotches often reddens, browns, dries, shrivels and leaf drop sometimes occurs.

The fungus reproduces rapidly and multiple infections occur during periods of leaf wetness and cool to warm, but not hot conditions. Keep leaves as dry as possible by avoiding overhead irrigation and enhancing good air movement by proper plant siting and pruning practices. When applying preventive fungicides make sure to get good coverage of the lower leaf surfaces where infections occur. When fungicides are required, use a labeled product containing mancozeb. This disease is diagnostically different from powdery mildew of viburnum in that the fungus is present on lower rather than upper leaf surfaces.

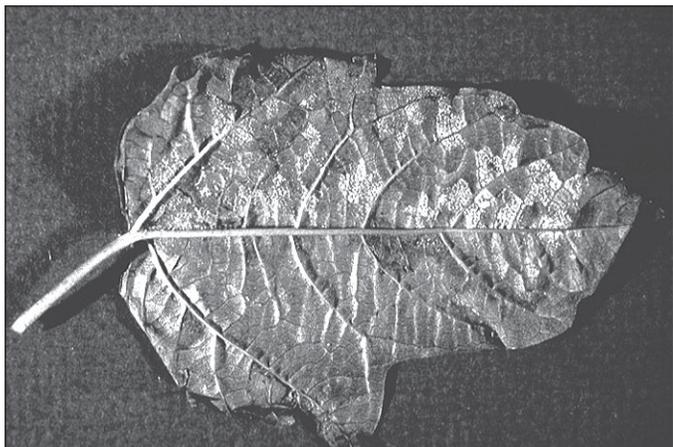


Figure 3. Downy mildew sporulating on the underside of a viburnum leaf.

Guignardia Blotch of Aesculus. Pathogen: *Guignardia aesculi*

This disease is a serious aesthetic problem on most horse chestnut and buckeye species, although bottlebrush buckeye (*Aesculus parvifolia*) exhibits excellent resistance. Large irregular reddish-brown lesions with surrounding yellowed tissue occur on leaves, often badly disfiguring foliage by early to mid summer. Leaves often curl and brown and, by August, the overall plant often looks as if it was blow-torched. Early leaf drop also occurs. The problem is enhanced by wet foliage conditions and the disease is not a problem in drier Western U.S. sites.



Figure 4. Guignardia blotch on Aesculus leaves.

Initial infections are in spring from spores produced in infected leaves from the past year. Moist conditions enhance the infections and subsequent cycles of infection occur if moist conditions continue. Black fruiting bodies of the fungus are often evident in lesions. The disease does not appear to be a serious health problem, as much of the annual growth of *Aesculus* has occurred by the time foliage is badly damaged. Controls for the serious aesthetic damage include fungicide applications made as leaves emerge, with repeated applications at 10 to 14 day intervals if wet conditions persist. Use a labeled fungicide containing chlorothalonil or mancozeb. Also practice sanitation by cleaning up infested foliage at the end of the season, and improve air movement in the tree canopies to hasten leaf drying.

Tar Spots of Maple. Pathogen: *Rhytisma acerinum*, *Rhytisma punctatum*

These dramatic but inconsequential diseases of numerous maple species cause small to almost one-inch diameter tar-like spots on leaves. The fungus overwinters on fallen leaves, then infects the upper surfaces of leaves in spring during moist



Figure 5. Tar spot on maple leaves.

conditions. Leaf spots are first a yellowish green but by mid to late summer a tar-like mesh of fungal and leaf tissue develops inside the yellowed area. Occasionally some leaf withering and drop occurs but this is not generally serious and fungicide sprays are not generally recommended. If fungicides are required, use a labeled product containing mancozeb or triadimefon.

Phyllosticta Leaf Spot of Maple. Pathogen:
Phyllosticta minima

Like many fungal leaf spots, this disease affects a number of maple species, most prominently Amur, Japanese, red and silver maple. The disease causes little damage because the infection is localized. Spots are roughly circular and develop into tannish spots with purple to red borders. Later in the season the spots often contain black fruiting bodies of the fungus arranged in rings inside the lesion. Although this disease is quite noticeable in the landscape, especially on silver and red maples, and causes concern among homeowners, damage is minimal and fungicides are rarely necessary. If fungicides are required use a labeled product containing mancozeb or chlorothalonil.

Some common product names containing the fungicides mentioned in this fact sheet include: mancozeb (Fore, Dithane,



Figure 6. *Phyllosticta* leaf spot on maple.

Mancozeb); chlorothalonil (Daconil*, Bravo, Ortho multipurpose fungicide*); Thiophonate-methyl (Cleary's 3335, Domain) and triadimefon (Bayleton, Strike). It is the user's responsibility to be certain that the fungicide being used is labeled for the specific plant being treated.

*Daconil and Ortho multipurpose fungicide are more commonly available to homeowners.

This publication contains pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registration, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author, The Ohio State University and Ohio State University Extension assume no liability resulting from the use of these recommendations.

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