

Common Diseases of Landscape Trees & Shrubs

What's that **spot** on the leaves? Or that **fuzzy stuff**? Why are the **leaves falling off**? Here's how to tell whether your woody plants are **really sick** or just have a little case of **fungus**.

Story & Photography By
Douglas A. Spilker, Ph.D.

Most diseases of landscape trees and shrubs are merely aesthetic problems and rarely cause any long-lasting damage. Nevertheless, some can cause serious defoliation, reduce plant vigor and ultimately result in plant death. The most common plant pathogens are fungi, but other organisms, including bacteria and nematodes, are capable of causing plant diseases.

Powdery mildew is a common foliar disease on shrubs such as lilac, viburnum, honeysuckle, privet and serviceberry. Although powdery mildew is also common on trees (oak, tulip poplar, sycamore and dogwood), it normally develops late in the season and rarely causes significant damage. It appears as a white powdery growth on the surface of leaves, stems and buds. It thrives on plants located in shady areas with poor air movement. Avoid planting susceptible plants in these locations, or select varieties with disease resistance. Certain fungicides will protect against powdery mildew or eradicate it, but unsightly leaf damage will remain even though the fungus has been killed.

Scab is a serious disease of apple and flowering crabapple. A similar scab disease occurs on firethorn (*Pyracantha* spp.), especially on the berries. Scab first appears in the spring as gray to olive-green spots on the undersides of new leaves. Lesions form on upper and lower leaf surfaces, commonly causing premature defoliation. The best means of controlling scab is using resistant cultivars. Since the fungus overwinters on fallen leaves, raking and removing leaf debris in the fall may reduce this disease. For susceptible cultivars, several fungicide sprays may be required for control. The most critical application period is early bloom, April to May, when spores are released from debris.



wet weather in late spring and early summer favors infection and spread of these diseases. Symptoms on ash, dogwood, maple and sycamore may include leaf and fruit spotting, interveinal necrosis and twig dieback. In severe years, premature defoliation can weaken trees, making them susceptible to other factors, such as drought stress. Twig dieback can result in abnormal branching and a deformed growth habit. Although anthracnose rarely causes significant damage, disease control may be recommended for "focal point" landscape trees or ones that sustain repeated defoliation. Fungicide sprays must be applied starting at bud swell, with one to two additional applications at 14-day intervals, if wet weather persists.

Fire blight is a bacterial disease (pathogen: *Erwinia amylovora*) that causes severe damage to apple, crabapple, pear, mountain ash and cotoneaster. At flowering, bacteria are spread from oozing branch cankers by splashing rain and insects. Infected flowers turn brown and shrivel. Infected shoots die quickly, taking on a scorched look, often forming a "shepherd's crook." Unfortunately, there is no cure for fire blight. The best treatment is regular pruning to remove any infected stems or branches. Avoid overhead irrigation, which spreads the pathogen by water splashing. Sanitize pruners and garden tools exposed to the bacteria.



Disease Management Strategies

It is not always feasible or necessary to control all diseases on landscape plants. Following proper disease management strategies will commonly minimize or eliminate damage from diseases.

- Purchase disease-free trees and shrubs from a reputable nursery or garden center.
- Select disease-resistant cultivars.
- Choose a good planting site, with good drainage and air movement.
- Use proper cultural practices, including pruning, proper spacing, mulching, fertilization and irrigation (not overhead).
- Rake and destroy leaves (do not compost) from diseased plants.
- Preventive fungicide sprays may be used to control foliar diseases of high-value landscape plants or ones with a history of disease.
- Trees defoliated annually by foliar diseases should be considered for replacement with disease-resistant species or cultivars.

Left: Apple scab will commonly cause premature defoliation of susceptible crabapples without fungicide sprays. Above: Fire blight on a backyard apple tree shows the typical "shepherd's crook" symptom on new growth.

Anthracnose is a general term used to describe a group of fungal diseases that attack the foliage and twigs of trees. Cool,



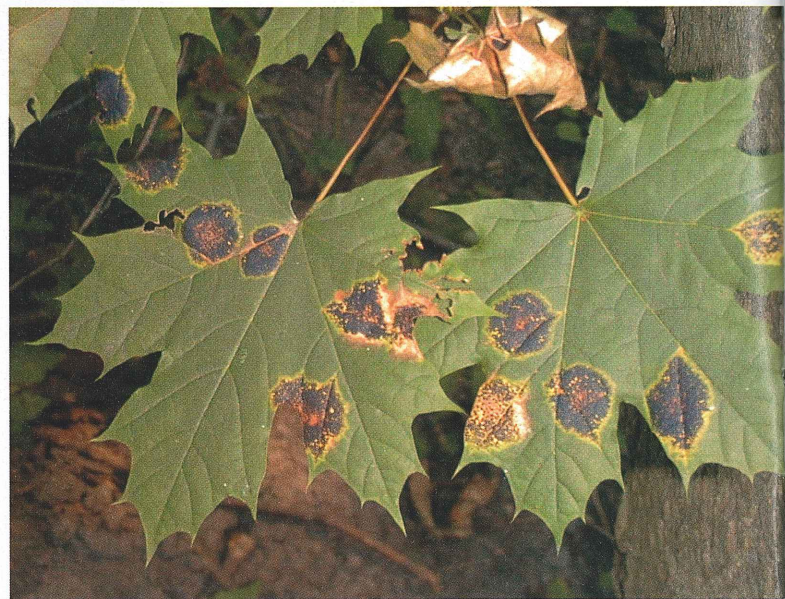
Black spot is the most common foliar disease of roses and will ruin susceptible roses unless controlled. The fungus, *Diplocarpon rosae*, produces circular black spots on leaves or stems. Leaf tissue surrounding the spots turns yellow, causing the infected leaves to drop, usually from the bottom up. The fungus survives on fallen leaves and on canes. Pruning and removal of all leaf debris in the fall may help avoid re-infection the following spring. Plant resistant varieties; avoid overhead watering. Fungicide spray programs can be effective if begun when new leaves appear and applied on a 10- to 14-day schedule all season.

Tar spot is a disease of maple. It looks like a black, tar-like substance has been randomly dropped on the upper surfaces of leaves. Tar spot occurs on sugar and silver maples, and although it is unsightly, it seldom causes a serious problem.

Sooty mold appears as black fungal growth on leaves and branches of trees and shrubs. This fungus is not a pathogen, but merely lives on the "honeydew" of aphids or scale insects. Therefore, sooty mold is a sign that insect control might be needed.

Pine wilt is an unusual disease caused by a microscopic pinewood nematode, rather than a fungus. The disease is lethal to Scots and Austrian pines. Needles on infected trees turn yellow then brown, and the tree slowly dies branch by branch. Diseased trees are often killed within two to three months, but the needles may remain for a year. There are no chemical cures. All dead trees should be removed, leaving no stumps. The most effective prevention is to avoid planting non-native pines, such as Scots and Austrian pine. ♣

Douglas A. Spilker, Ph.D., is a consulting ornamental plant pathologist and entomologist, garden writer and lecturer. Dr. Doug can be reached at askdrdoug@gmail.com.



Above: Tar spot of maple rarely results in any long-term effects on plant health. Top Left: Black spot is the most common disease of roses, especially hybrid teas, and will result in total defoliation of susceptible roses unless treated. Left: Pine wilt of Scots pine (*Pinus sylvestris*) caused by the pinewood nematode. Note Eastern white pine (*Pinus strobus*; left) is unaffected.

