

DISEASES OF TREES & SHRUBS

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Diagnosis of tree and shrub problems is often very difficult for the turf manager because their training was usually devoted to turf culture. Even though the diagnosis of turf problems is often difficult, tree and shrub problems are even more difficult. Private consultants, tree and shrub care companies and the MSU Extension Service can assist grounds managers in the diagnosis of their plant problems. The MSU Plant & Pest Diagnostic Clinic utilizes special tools and techniques to accurately diagnose plant problems. Accurate diagnosis is essential if plant problems are to be solved, and unwarranted pesticide usage is to be thwarted. The Clinic's address is:

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Some of the more common and serious problems recently encountered on landscape plantings include the following:

"Lawn Mower Blight": Closely related to "*Weed Trimmer Wilt*", lawn mower blight is the scourge of landscape trees and shrubs. Mechanical wounding of trees and shrubs not only causes immediate physical damage but also results in the introduction of disease organisms, such as lethal Verticillium wilt or Phytophthora bleeding cankers.

Verticillium Wilt: This often lethal disease infects many different trees and shrubs but maple and smoke tree are among the most susceptible species. The fungus often infects trees through lower trunk wounds (lawn mower blight) or through root disturbances.

Oak Wilt: Oak wilt is a serious disease caused by the fungus, *Ceratocystis fagacearum*, a close relative of the dreaded Dutch Elm Disease. The fungus is capable of killing huge oak trees in only several weeks. Red oaks are most susceptible; white oaks may take more than one season to die. A recently discovered predisposing factor in the infection and death of oaks is late spring and early summer pruning of trees. Never prune oaks during the warm season.

Fireblight: Fireblight is caused by the bacterium, *Erwinia amylovora*. Because fireblight is a bacterial disease, it is not controlled by the fungicides which plant managers are accustomed to employ. Control is achieved primarily through pruning and the prevention of infected plants in the landscape. Members of the rosaceae are affected by fireblight, and include: apple, crabapple, pear (& ornamental), pyracantha, cotoneaster, mountain ash and hawthorne.

Scab: Scab, caused by the fungus *Venturia inaequalis*, is one of the most common diseases in the landscape. Scab usually causes unsightly lesions and premature defoliation on apple and crab apple. Pear and mountain ash may also be affected. When purchasing new trees for installation, be sure to obtain scab-resistant varieties. Some new fungicides offer season long protection with only a couple applications, but disease resistance is also common for some fungicides.

Phytophthora Bleeding Canker: Bleeding canker is often a lethal disease. Although many plants are affected, maples and beech seem to be the most susceptible plants. Physical injury from lawn mowers and weed trimmers predispose trees to infection. Once a tree is infected, control is almost impossible.

Zimmerman Pine Moth: Zimmerman pine moth is a fairly new and serious pest found more commonly on the exotic pines such as Austrian and Scotch pines. The insect usually attacks at the branch whorls, severely weakening the tree. Unfortunately, tree managers do not often notice the problem until the top half of the tree breaks off during a storm.

Pine Root Collar Weevil: This insect pest is also unrecognizable by tree managers because it attacks trees directly below the ground level. Trees usually exhibit a gradual fading toward death over a several year period. Although a number of pines are affected, eastern white pine seems to be quite susceptible to the pest.

Diplodia Tip Blight: This fungal disease, caused by Sphaeropsis (Diplodia), is quite serious on the exotic, introduced Austrian, Scotch and Mugo pines. Symptoms include tip death and eventual limb dieback. Under very severe cases, trees may die. The branch tip necrosis may be confused with other problems such as European Pine Shoot Tip Moth.