



This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

Heart rot of trees

Heart rots of trees are found worldwide and are extremely common. Several species of fungi cause heart rot, especially *Polyporus* and *Fomes* spp. These fungi can cause root and butt rot on both broadleaf and conifer trees. Wood rotting fungi are most often found on dead or dying trees as wood decomposers. They normally attack only live trees that have been wounded. In the home landscape, the main causes of injury are mechanical injury done with mowers and weed eaters. In the forest, heart rots occur for the most part on trees damaged by lightning, wind, insects, fire, and animals. Diagnostic are the shelf mushrooms growing on the trunk and butt of the tree. By the time the mushrooms are observed, extensive interior damage has already occurred. Severely infected trees may become structurally unsound and break during a storm. There is no treatment or cure. Some trees will live for decades with the infection before dying.



Bryan McDade Historic Washington State Park



Phellinus shelf fungi

Bryan McDade Historic Washington State Park

Maple

Didymosporina aceris is a fungus often seen at this time of year on ornamental maple, where it produces very dark, small leaf spots of irregular shape. Severely infected leaves turn yellow and are shed prematurely. Control measures are not considered necessary as it generally has little impact on overall tree health. There are several measures a homeowner can take, however, if the unsightly leaves are unacceptable. Good sanitation practices are helpful. All fallen leaves should be cleaned up and disposed of. If the tree is small enough to make spraying practical, an ornamental fungicide such as Daconil can be used to protect the foliage before the spots appear.

More important is keeping trees watered. The clinic is seeing drought stress on many ornamental trees. Symptoms are worse on young trees, but we are seeing stress on 40-year-old trees as well. **Dogwoods** planted in full sun are suffering severe leaf scorch due to the loss of water through the leaves faster than the roots can replace it.



Didymosporina on maple



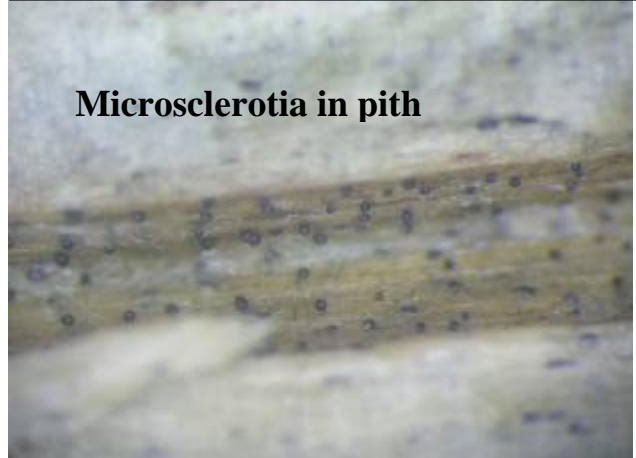
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Charcoal rot



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Microsclerotia in pith



Fusarium wilt in dry beans



Photo by H.F. Schwartz, CSU

Soybean

There is some confusion in the field about diagnosing charcoal rot. Not all discolorations of the sub epidermal tissues are charcoal rot. The clinic has had numerous samples with Fusarium wilt. This time of year charcoal rot will manifest as a blackish-gray to silvery-gray discoloration in the taproot and lower portion of the stem. Microsclerotia are produced in the pith. These are tiny black round-to-oblong structures that can be seen plainly with a hand lens. Black streaks in the woody portion of the crown may be seen along with a reddish brown discoloration that progresses up into the stem. Infected plants produce leaflets that are smaller than normal. As the disease advances, leaflets yellow and turn brown but remain on the plant. Fusarium wilt also produces vascular discoloration, primarily reddish brown to blackish brown streaking. Fusarium wilt does not produce the diagnostic microsclerotia. Leaves become chlorotic, wilt, and eventually drop.



Corn

The corn is done, but a few samples are still trickling into the clinic. Poor pollination can be caused by fertility issues, drought, dense plant populations, aphid or herbicide damage, chewed-off silks, or poor timing of silking and pollen shed.



Poor pollination

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Philodendron

Philodendron is a large genus of tropical plants from the arum family, consisting of close to 1000 or more species. Many are grown as ornamental and indoor plants. The name derives from the Greek *philo* or "love" and *dendron* or "tree." They are shrubs and small trees, most of which are capable of clambering over other plants or climbing the trunks of other trees with the aid of aerial roots. Leaves are usually large and imposing, often lobed or deeply cut. All parts of the plant are poisonous due to the presence of calcium oxalate crystals. Pothos is a small-leafed, tropical houseplant that is also commonly called philodendron although it belongs in a different genus. Both Pothos and Philodendron are susceptible to bacterial infections when foliage and soil are kept too wet. *Erwinia*, *Pseudomonas*, and *Xanthomonas* spp. all attack these foliage plants. Symptoms vary from soft rots starting at the soil line to various leaf and stem lesions. Leaf lesions may expand rapidly and encompass an entire leaf in just a few days. Keeping the foliage dry and avoiding mechanical injury are the recommended cultural controls. Chemical control is generally unsatisfactory, but streptomycin has been proven more effective than copper product. Because of the difficulty of controlling bacterial

infections, disposing of the infected plant and starting over with a new one is often the best solution. Be sure to thoroughly wash the old pot and dip in a 10% bleach solution before reusing.



Bacterial leaf spot on palm philodendron

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Bacterial leaf spot on Pothos

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