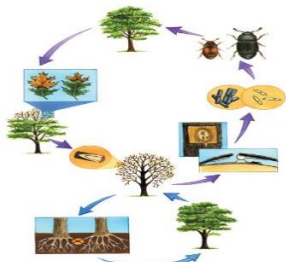


OAK WILT – A DEADLY FUNGUS

Oak wilt is a potentially deadly disease caused by the fungus *Bretziella* (formerly *Ceratocystis*) *fagacearum*. First discovered in the 1940's in the Mississippi River Valley area, the disease is found predominantly in the mid-west and eastern United States. Cases of oak wilt infestation has been recorded in several counties in Ohio over the years with variable frequency. Oak wilt kills thousands of trees in forests, woodlots, and urban areas annually. This fungus enters the tree's vascular system, which prevents the flow of water and nutrients throughout the tree. This leads to dehydration and the steady decline and death of the tree.

The disease appears as a fungus under the bark and results in leaf wilt and discoloration, early leaf drops and slow death of the tree. Other signs of oak wilt infestation include dying branches, thinning crowns, browning leaf tips and chlorotic leaves. The symptoms of oak wilt are similar to those of other pest, disease and abiotic issues and may lead to a misdiagnosis of the disease. This is especially true for white oak trees, which are more virulent against the disease. Trees in the red oak family typically decline rapidly within months of infection. Infected red oaks quickly lose their leaves beginning at the crown and exhibit brownish streaks in the sap wood, just under the bark. Unlike normal leaf fall, the leaves of infected trees drop to the ground when they are still partially green predominantly in the late summer months. Oak wilt is commonly spread underground through root grafts, by transporting infected firewood to other healthy areas, or from sap-feeding nitidulid beetles.



Oak Wilt Disease Cycle – Annual Review of Phytopathology, 2008 46:1, 13-26.



Tree stem showing symptoms of oak wilt infestation. Tree Renewal, 2022.



Tree stem showing symptoms of oak wilt infestation. Wisconsin Department of Natural Resources.

Disrupting root grafts of infected trees limits the spread of the disease. Trenching around an infected tree may help to prevent spread to other healthy trees but, because of the vast root system of a tree may not be entirely successful. It is advisable to seal or paint over any open areas, because nitidulid beetles are attracted to open wounds or freshly pruned areas and can transport the disease from sap on their bodies to other healthy trees. Pruning an oak to assist in prevention is best done after the first frost when insects are no longer active. Depending on the species of oak, specific fungicides can be used to target infections. To minimize the spread over land, do not move firewood. It is recommended that a symptomatic tree is sampled and examined by a certified arborist for proper diagnosis and management. Management against this disease will ensure the viability of these beautiful, large stature trees in our landscapes.