

## **Ohio Tree Pathogens: Oak Wilt**

*What is it and how does it spread?*

Oak wilt is a disease that affects oak trees, aptly named because signs of the disease include wilting of leaves and branches at the top of the tree and early leaf drop. The disease is caused by the fungus *Ceratocystis fagacearum*, which develops in the xylem, the water-carrying cells of trees. The tree responds by blocking its vascular system and thereby blocks flow of water and nutrients from the roots to the leaves, causing the leaves to wilt and fall off. Not all oaks are affected the same by the disease.

The disease is most devastating to oaks in the red oak subgenus- such as *Quercus coccinea* (scarlet oak), *Q. imbricaria* (shingle oak), *Q. palustris* (pin oak), *Q. phellos* (willow oak), and *Q. rubra* (red oak). These trees can die within a few weeks to six months after being infected, and the disease spreads quickly from tree to tree. The disease is not as prevalent and spreads more slowly and rarely in the white oak subgenus. It can take years for trees in this group to die.

The fungus spreads aboveground from tree to tree by insects common to oaks carrying the fungal spores, or more commonly underground by roots grafts (roots fusing together). Oak species within the same subgenus form root colonies that allow the disease to move rapidly from one tree to another.

*Oak wilt in Ohio and what we can do to slow the spread:*

Oak wilt has been reported in every county in northeast Ohio. Homeowners and municipalities can be proactive in preventing the spread of oak wilt with the following measures:

- Do not prune oaks from April to November. This is true of most trees. The best time to prune is during the dormant season. Bugs are attracted to fresh tree wounds and can spread fungal spores by visiting tree to tree.
- Learn oak wilt signs and symptoms which include leaf discoloration, leaf loss, fungal spore mats, early leaf drop of brown, green, and mottled leaves, and wilting of terminal branches at the top of the tree. Contact the Stow Urban Forestry Department if you suspect oak wilt on your property.
- Don't move firewood. Oak wilt can form spore mats on cut firewood with intact bark. Firewood cut from freshly killed oak wilt trees should be burned by the subsequent early spring. Any unburned firewood should then be covered with a thick plastic up until one full year after the tree died.
- Municipalities can establish oak-free zones and utilize trenching to break root connections prior to the removal of dead or diseased trees. Urban forestry managers can send in samples to the lab to confirm the presence of the pathogen.