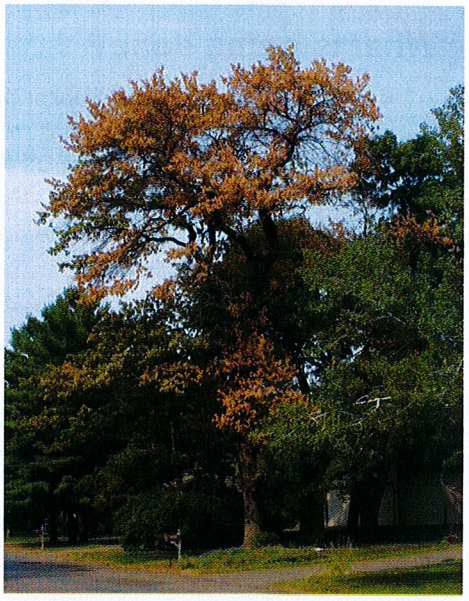
STOP THE INVASION
PROTECT NEW YORK FROM INVASIVE SPECIES

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

OAK WILT

What is oak wilt?

Oak wilt is a disease that affects oak trees. It is caused by *Ceratocystis fagacearum*, a fungus that develops in the xylem, the water carrying cells of oaks. All oaks are susceptible to the fungus, but the red oak group (with pointed leaf tips) often die much faster than white oaks (rounded leaf tips). Red oaks can take anywhere from a few weeks to six months to die and they spread the disease quickly. White oaks can take years to die and do not spread the disease.



Dead oak tree

Why is oak wilt a problem?

The oak wilt fungus blocks the flow of water and nutrients from the roots to the crown, causing wilt, and usually killing the tree.

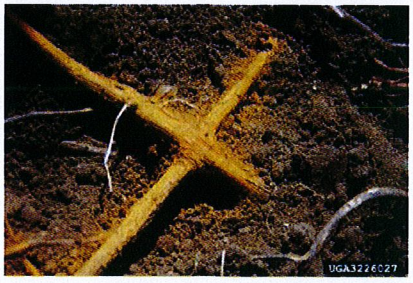
Where does it come from?

When was it Introduced?

In 1944, oak wilt was first discovered in Wisconsin from which it spread throughout the Midwest and Texas. It is currently present in Islip on Long Island. In 2008, a small infestation was discovered and eradicated in Glenville, NY.

How does it spread?

Oak wilt can spread below ground through tree roots and above ground by beetles. The roots of nearby red oak trees can graft (fuse together), creating a connection through which nutrients and some diseases can move. Most of the spread (about 90%) occurs through roots directly from one tree to the next.



Root graft

Some spread is also due to sap feeding beetles and bark beetles (including *Pseudopityophthorus minutissimus* and *P. pruinosus*). Fungal spore mats form just under the bark of diseased, dead red oaks. In the spring and summer, these fungal spore mats emit a sweet odor that attracts beetles. The beetles then crawl on the mats where fungal spores attach to their bodies. Beetles can spread the spores from infected trees to open wounds on uninfected trees, sometimes miles away. Transported wood poses a threat to oaks because it can harbor the fungus and/or beetles that can then pass it to other uninfected trees.

Symptoms

Symptoms of oak wilt infection are often very noticeable in red oak species, but can be relatively nondescript in white oaks.

- Brown coloration can develop on leaves starting at the outer edge and progressing inward toward the mid-vein of the leaf.

Diseased red oak leaves

Fungal spore mat under bark

- Branch dieback may be visible starting at the top of the canopy and progressing downward.
- Leaves suddenly wilt.
- Leaf loss during spring and summer. Leaves may fall when green or brown.
- Fungal spore mats may develop under the bark, forming pressure pads that can raise and split the bark.

Trenching to break grafted roots

What is being done?

- DEC will survey and monitor the area to identify any additional diseased trees. Two aerial surveys per year will be conducted for the next 5 years. Staff will also conduct ground surveys every year for the next 5 years.
- All infected red oaks and potentially infected red oaks (within 150 feet of infected red oaks) will be removed in order to prevent the spread of the disease.

What can I do?

- Learn to recognize the symptoms of oak wilt including leaf discoloration, branch dieback, and fungal spore mats. If you think your tree is infected with oak wilt, contact DEC Forest Health (see Contact Information below).
- Avoid pruning or wounding oak trees in the spring and summer, when spore mats are present and beetles are the most active. If a wound occurs, it should be dressed immediately with latex paint. This will slow wound recovery but also deter beetles from landing on those areas.

More information on oak wilt

- DEC website: www.dec.ny.gov/lands/46919.html
- New York State Invasive Species Clearinghouse website: www.nyis.info.

CONTACT INFORMATION

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