

# Verticillium Wilt

## TREE DOCTOR TIPS

### Verticillium Wilt (*Verticillium dahliae*)

#### DESCRIPTION:

Verticillium wilt is a fungal disease that causes serious injury and often death to its host. It is caused by the fungus *Verticillium dahliae* and can live in the soil for long periods of time without showing any signs.

#### HOSTS:

This disease infects plants, including trees, shrubs, vines and ornamentals. Commonly infected trees include maple, catalpa and magnolia.

#### BIOLOGY AND SYMPTOMS:

The first noticeable symptom of Verticillium wilt is sudden, abnormal wilting of branches. Leaves may yellow or brown prematurely and branches may appear scorched or show dead and dying twigs. Sapwood may appear discolored below the surface of the bark. In other woody plants and ornamentals, discoloration and browning are the first symptoms of the disease.

This disease is unpredictable and may take years to kill the plant or could kill it within weeks if the plant is suffering from severe drought conditions. Roots that grow close to the infected soil become infection sites for the fungus, which enters through natural openings or wounds. The fungus works its way through the plant's vascular system, making its way to the branches and blocking the flow of water to the foliage, causing the wilt.

#### MANAGEMENT:

Proper identification of this disease can be difficult because the symptoms can be similar to other common fungi. The best way to determine if a plant is infected is to have an arborist test the plant for the presence of the pathogen. This fungus

can be difficult to manage because it is a soil-dwelling species. Plants are known to survive the fungus if proper care is given. Keeping trees and plants as stress-free as possible can help to fight Verticillium wilt. Prune trees and plants to remove dead or dying branches. Sterilize tools after pruning an infected plant. Try to minimize injury to plants from lawn mowers or other gardening tools and apply fertilizer treatments regularly to encourage proper soil and nutrient balance.

There are also several species of trees and shrubs that are resistant to this disease. When planting new trees and shrubs, consider the following plants:

- Crabapple
- Beech
- Hawthorn
- White Oak
- Poplar

If infection is severe enough, removal of the entire plant may be necessary. Consult your local arborist to see if your plants are suffering from Verticillium wilt or how to help prevent it.

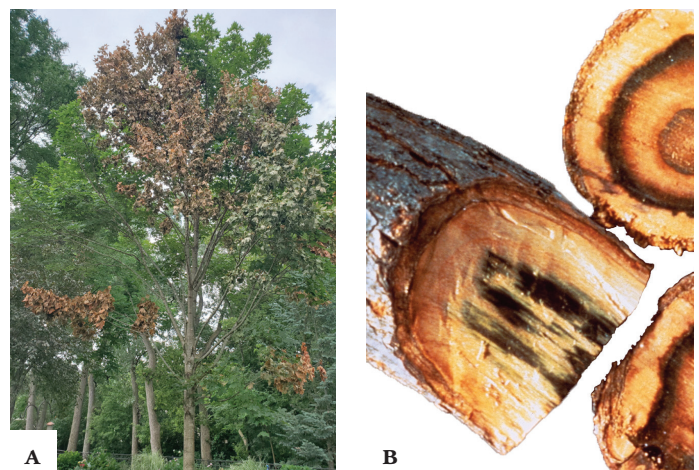


FIGURE A. DISEASE PROGRESSION OF VERTICILLIUM WILT

FIGURE B. INTERNAL STREAKING IN THE SAPWOOD OF A BRANCH IS TYPICAL OF VERTICILLIUM WILT

(Photo credit: USDA Forest Service - Northeastern Area, Bugwood.org)

*The scientists at **The Davey Institute** laboratory and research facility support our arborists and technicians in diagnosing and prescribing based on the latest arboricultural science. For specific treatment and application details, your arborist may consult *The Davey Institute's Plant Health Care Book*.*

