



# Home Grounds Fact Sheet

## Verticillium Wilt

This is one of the most serious and destructive diseases attacking the maple. It has been reported most frequently on Norway and sugar maples, but other species are also affected.

The tree may appear perfectly healthy and then suddenly the leaves and branches may wilt while still green. This is usually followed by the wilting and death of other branches until the entire tree is killed. Sometimes the tree may present a sickly appearance for a year or two before the wilt symptoms actually appear, or again the weakened branches may be killed during the dormant season and fail to put forth new growth the next spring. Many affected trees have dead areas in the bark of the trunk or large branches where the bark turns dark, becomes soft and wet and eventually falls away.

All affected trees have long, conspicuous green streaks in the sapwood. The presence of this symptom in a wilting tree is a sign it is suffering from wilt. The green streaks may not appear in the twigs where the wilt is taking place, but may be found lower down at the base of the branch or in the trunk.

### Cause

Maple wilt is caused by a fungus belonging to the genus *Verticillium*. A related fungus causes a similar but less common disease in elms, while other forms of *Verticillium* attack a great variety of both woody and herbaceous plants, causing diseases more or less serious.

### Prevention

Plant trees grown on land where susceptible crops have not been planted. When buying plants, ask your nursery or garden center personnel if they purchase plant materials from suppliers who guarantee their stock is free of the *Verticillium* pathogen.

### Control

The disease appears to spread from one tree to another, especially when they are growing close together. It is believed that the fungus enters mostly, if not entirely, through wounds. The wilt fungus lives in the soil and can persist there for many years. Control

measures must be designed to prevent wounds as much as possible and to eliminate the sources from which the fungus spreads. Fertilize as necessary with a complete fertilizer containing Nitrogen (N), Phosphorus (P) and Potassium (K) in roughly a 2:1:2 ratio. Avoid high-nitrogen fertilizers. Be careful not to injure tree roots especially with a lawn mower.

If a tree or shrub already established in a landscape becomes infected with *Verticillium*, it may still live and be a serviceable plant for many years. Trim symptomatic parts from the plant, disinfecting tools between cuts. Be sure the plant has adequate water and nutrition because *Verticillium* spreads more quickly in plants growing in less than optimum sites.

If an established tree or shrub must be removed because it is dying from *Verticillium* wilt and a replacement is desired, use a resistant plant:

### Plants Resistant to Verticillium Wilt

Yews and conifers are not affected by verticillium wilt. Many broadleaf trees and shrubs commonly planted in New York also seem to be resistant. The following plants are resistant:

<i>Betula</i> spp.	birches
<i>Carpinus</i> spp.	katsura tree
<i>Cornus</i> spp.	many dogwoods
<i>Crataegus</i> spp.	hawthorns
<i>Ginkgo biloba</i>	ginkgo, maidenhair tree
<i>Gleditsia triacanthos</i> and varieties	honeylocusts
<i>Liquidambar styraciflua</i>	sweetgum
<i>Malus</i> spp.	flowering crabs
<i>Morus</i> sp.	mulberry
<i>Platanus</i> spp.	plane tree, sycamore
<i>Pyracantha</i> sp.	firethorn
<i>Quercus palustris</i>	pin oak
<i>Quercus borealis</i>	red oak
<i>Salix</i> spp.	willows
<i>Sorbus aucuparia</i>	European mountain ash

Although maples are generally thought to be highly susceptible to *Verticillium* wilt, red and sugar maples appear to be much more resistant than Norway maples. 'Jade Glen' and 'Parkway' are reported to be more resistant than other cultivars of Norway maples.