

Verticillium Wilt

by James A. Fizzell

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Leaves on a large branch in your favorite maple tree wilt, turn brown & fall in mid-summer. A plant in the barberry hedge dies, followed by death of the plants on either side. Or, a tomato plant yellows and dies just as it starts to produce fruit.

This kind of problem is a common occurrence this year. The cause is often Verticillium Wilt, a soil borne fungus disease. The soil becomes infected with the disease, when diseased plants or contaminated soil is brought in. Susceptible trees, shrubs and also garden plants growing in the soil are invaded through roots.

As well as attacking the above plants, Verticillium Wilt also attacks Ash, Box Elder, Catalpa, Cherry, Dogwood, Elm, Honey Locust, Horse Chestnut, Kentucky Coffee, Lilac, Linden Locust, Magnolia, Oak, Osage Orange, Poplar, Privet, Redbud, Rose, Russian Olive, Sumac, Tulip Tree, Viburnum, and Yellow Wood. Many garden flowers and vegetables are also susceptible.

Infected plants may not show symptoms until they are damaged or stressed in some ways. Floods last fall, and drought last winter damaged plants and hence, those with Verticillium are showing the characteristic symptoms. Susceptible tomato varieties usually succumb from the stress of fruit production. You can tell if your plant has Verticillium Wilt by cutting into affected stems. If the disease is present, vascular tissue or sapwood will be streaked green, purple & brown, depending on the variety of plant. Infected garden plants usually die from the disease, but often a woody plant wilts and recovers, not showing symptoms until stressed again. By keeping the plant healthy and vigorous an affected plant can often live out its normal life span.

A spring application of nitrogen fertilizer to trees and shrubs will promote formation of thick sapwood and may wall off further infection. Remove dead limbs, but postpone pruning any newly wilted branches to see if they will produce new leaves. Water during drought periods.

If your plant dies, be sure to replace it with a resistant variety such as Apple, Beech, Birch, Ginko, Hawthorn, or Oak (White or Burr). Most evergreen trees and shrubs are resistant. Plant only resistant varieties of garden plants.

If you are fortunate enough to have avoided contaminating your soil with Verticillium Wilt, be very selective about any plants you bring in, especially from neighbors. This is one place where it may pay to look a gift horse in the mouth.

Crabapples: Their Evaluation and Selection

by Edward R. Hasselkus, Prof. of Hort.
Univ. of Wisconsin-Madison

During my more than 20 years of evaluating crabapples, I have made at least five general observations:

1. **Selection should be made on the basis of fruiting, not flowering qualities.** Fruits add color for up to eight months, where flowers last only a few days.

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(Crabapples cont'd.)

2. **Selection should also be based on disease resistance.** Apple scab is the most serious problem in the humid Great Lakes region. Fire blight is another serious disease problem. In my experience, fire blight can be fatal to these crabapples: *Malus baccata* "Columnaris", *Malus croonaria* and *ioensis* and their cultivars, *Malus* "Guiding Star", *Malus micromalus*, *Malus x scheideckeri* and its cultivar "Hilliere", *Malus* "Snowdrift", *Malus spectabilis* "Riversii" and "Van Eseltinei", *Malus tschonoskii*, *Malus yunnanensis* veitchii.

Though not fatal, I have also observed severe fire blight on the following: "Beverly", "Bob White", "Golden Hornet", *M. sieboldii* and *M. x zumi calocarpa*.

Cedar-apple rust contributes to the decline of *Malus coronaria* and *ioensis* anywhere within the natural range of red cedar (*Juniperus virginiana*).

3. **There are no disease-resistant rose-pink flowered crabapples at the present time.**

4. **Most upright or columnar crabapples eventually suffer "middle-age spread."** Although upright in their branching habit as young plants, most increase dramatically in spread following the production of heavy fruit crops.

5. **Suckering from the rootstock is the most serious maintenance problem with crabs.** This is especially troublesome when the non-vigorous crabapples are grafted on-to vigorous seedling apple rootstocks. The practice of propagating crabapples on their own roots should minimize this problem.

Designing with Crabapples

by Anthony Tyznik, L.A.,
Morton Arboretum

Crabapples comprise a major portion of the palette of plants used in the design of landscapes. Unfortunately their use often ends in the same predicament common to silver maples and junipers. Their inherent design characteristics are overlooked. Selection is made in haste, based only on the flowers of spring. Disregarded is the size, branching pattern, form and other features, as well as the location they will assume in the executed design. This quick choice is often the start of a landscape destined to failure and disappointment. The very basis for sound design is omitted — consideration of all the characteristics of the tree. Rather than a striking feature, it ends up as an incidental drooping in the landscape scene.

To understand the landscape potential of the beautiful and versatile crabapple, it is necessary to first understand the basic characteristics of the species. The following features should be carefully considered: buds, flowers, fruit, form, branching patterns, textures, foliage, winter effects.

As we use the list of characteristics just compiled, the landscape compositions will vary by application. The combinations are as varied as our capabilities. We see them used as contrasting forms, colors and textures to the forms of conifers and deciduous plants; blending with other buds, flowers and leaves; fruit colors extending through fall and winter; fall colors harmonizing with conifers and deciduous plants; and the beauty of a well-chosen specimen to add charm in a special place.

There it can display its form, elegant flowers, colorful fruit, autumn colors and artistic branching in uncrowded splendor,

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