



Trouble in the Tomato Garden

Tomato diseases is a vexing subject, but discussion of it is necessary. Although tomatoes are considered to be an easy plant to grow, anyone who has grown them for a few years has probably confronted at least one of the problems that are common in our area. What is particularly confounding is that when a problem is detected, it is oftentimes too late for effective action. A proactive approach is necessary.

The easiest proactive action is to buy plants that are disease resistant. When a plant breeder creates a new tomato, disease resistance is usually a primary concern. The breeder therefore uses disease resistant parent varieties to ensure this characteristic. Once a prospective variety is created, it usually undergoes a series of tests to make sure it is resistant. The results of these tests are often given on the plant label, represented by a series of letters such as VFNT. In this example, it means that the variety is resistant to verticillium wilt, fusarium wilt, nematode disease, and tobacco mosaic virus. In our part of the country, verticillium wilt is the most common systemic disease, but the plant breeder wants to sell his seeds everywhere, so he works toward getting as much disease resistance as possible. Most modern hybrids are quite disease resistant. Heirloom varieties (those that have been handed down, oftentimes for generations) are another matter. Some folks claim that heirlooms are much more susceptible to disease. Others claim the heirlooms are as disease resistant as the hybrids. Heirloom varieties can be tested for resistance, but seed companies don't want to pay for the tests because the seed is available so freely that there is no financial incentive. In the case of modern hybrids, the breeder wants to patent his variety, so he is willing to pay for the disease resistance tests and the right to claim his variety is disease resistant. My own feeling is that heirloom varieties are often quite disease resistant. It seems logical that if an heirloom variety was prone to a particular problem, it is unlikely that variety would be handed down to other generations. Why would you continue to plant a variety that had chronic problems?

If you think you might have had one or more of these problems in the past, it would be wise to choose disease resistant varieties in future years. If you are growing your plants in containers, and you use fresh soil every year, you are not likely to have these problems since many diseases are carried over in the soil.

Verticillium wilt, the most common systemic disease in our area, is a serious disease. It affects the entire plant, and although it is not usually fatal, affected plants produce little or no fruit, and they look terrible. Wilting is a symptom of several diseases. If you have wilting leaves, and the leaves turn yellow and then brown, you likely have verticillium wilt. If the disease exists in your soil in the form of fungal spores, it can stay there for several years. It often presents itself during periods of cool, humid weather.

A second common disease is septoria leaf spot. This disease starts to appear as the weather warms and the first fruits begin to set. Older leaves on a plant get small circular grayish spots with dark margins. The leaves eventually fall off. This disease is common in areas with high humidity, so in drying years it may be less prevalent. A fungicidal spray such as Captan or Fung-onil can be used as a preventative and as a treatment after the disease has appeared. Because this disease is absorbed through the leaves, some feel that it is less likely to be a problem with thicker leaved varieties such as the potato-leaf and rugose (hairy) leaved types.

The most common foliage disease in America is "early blight." Early bearing, determinate varieties are believed to be affected more than other types. The fungus causes brown or black blotches on the stems and the lower leaves. The plant defoliates from the bottom up, usually after the first harvest. There are some preventive measures. Make sure there is plenty of air circulation. Do not water late in the day or at night. When watering, use a soaker hose so the foliage stays dry. Use a fungicidal spray such as Captan or Fung-onil. Again, it is possible that thicker leaved varieties may be more resistant to this condition.

Blossom end rot is the last of these most common problems. It appears on the blossom (bottom) end of the tomato. It occurs during initial fruit formation. In its worst form, it looks like a black, leathery patch. It can be small or quite large. Causes of this problem are subject to conjecture, but the primary causes seem to be calcium deficiency and uneven watering. Many tomato fertilizers contain calcium to help with this problem. Other remedies include the application of Rot-Stop spray and egg shells in the soil. We know of a physician who puts a calcium rich TUMS tablet in each hole before he plants a tomato. Regarding the watering, application of mulch to retain moisture will help. Apply the mulch after plants are in active growth, and after a watering. Do not put the mulch up against the plant stem.

All this discussion of tomato problems makes the prospect of growing good tomatoes seem rather daunting. Still, I believe it is rather easy to grow good tomato plants, especially if you are growing in containers. I was somewhat cautious about mentioning all these problems, especially when many of you have probably not experienced them. But the problems do exist so it is good to be aware of them. Keep in mind that diagnosis can be difficult, especially if the plant has more than one problem. A good source for photos of these and other, less common problems is the website of the University of Wisconsin Extension, horticulture division. You can also call your local extension office to see what problems are currently showing up in your area.