



Tomato Troubles

By Dennis Tsui, UConn Home & Garden Education Center

Here at the UConn Home & Garden Education Center, we receive no shortage of inquiries regarding tomatoes. As someone who has tried to grow tomatoes on many occasions and has worked on tomato disease pathology, I just assume that all tomatoes are bound to come down with some type of ailment. Unlike insect pests which we can notice quickly and control with mechanical and chemical methods, fungal, viral, and bacterial pathogens can be more difficult to notice until the plant is beyond saving.

A few examples of what we see coming into the Center now include early blight of tomatoes, caused by *Alternaria solani*, late blight of tomatoes, caused by *Phytophthora infestans*, and more recently, tomato spotted wilt virus or TSWV.

Early blight is a fungal disease that can be recognized by leaf spots with tan centers, which have concentric rings and yellow halos, and sunken areas of the fruit around the stems. Early blight overwinters in infected plant tissue and soil and is most commonly introduced to the plants lower leaves through contaminated water splashing onto them. Spores on the leaves can then be spread through wind, water, or human contact.

Late blight, also a fungal disease, can be recognized by the leaves becoming a pale green near the edges, with the tips eventually turning brown. The fruit will begin to exhibit dark, leathery areas on the top and sides. Unlike early blight, late blight does not overwinter in plant tissues as long as it drops down to freezing temperature. Greenhouses should be cleared of any plants that exhibit late blight.

Overhead watering with tomatoes should be avoided, as well as splashing soil on the plants when watering near the soil line. Choosing disease resistant varieties can also help your crop start off on the right footing.

Tomato spotted wilt virus is a unique plant virus because of the large and extensive host range of over 1,000 species on plants, which also includes garden favorites like peppers, cucumbers,

spinach, and eggplants. Because of its wide host range, TSWV has had devastating effects in greenhouse settings where the virus isn't detected early enough with the infected plants removed.

Tomato spotted wilt virus is recognized by the younger leaves turning bronze with small dark leaf spots developing. Leaves will then begin wilting with some growing tips dying back with dark streaks and splotches. If plants are infected early in the growing season, fruit will not develop. Infected tomatoes later in the season will develop raised, chlorotic concentric rings, and will be of poor quality with uneven ripening and deformations.

TSWV is introduced to the tomato through thrips, microscopic insects that feed on plant tissue. The virus can only be picked up when the thrips are young, and is transmissible throughout the remainder of their life-cycle. Adult thrips can transmit the virus from plant to plant once their wings are fully developed.

This virus is untreatable, so the best management is maintaining good cultural practices in the garden to prevent the insect vectors. Sanitizing the garden is a good first step by removing sick and infested plants. Controlling weeds around the landscape will also help as they can also serve as a host for thrips and TSWV.

It's important to remember that gardening can be more trial and error than success. The UConn Plant Diagnostic Laboratory can screen for TSWV, so if you suspect your tomatoes or any other plants are exhibiting symptoms of TSWV, contact us at ladybug@uconn.edu and our Home and Garden Education Center staff can help determine whether or not the plant in question should be tested. Remember, early detection is key when trying to stay ahead of any plant problem.

If you have questions on your tomato plants or on any home or garden topic, contact the UConn Home & Garden Education Center, toll-free in CT, at (877) 486-6271, visit us at www.ladybug.uconn.edu or call your local Cooperative Extension Center.