

Tomato Spotted Wilt Virus in Tomato

Steve Bost, Professor
Entomology and Plant Pathology

Tomato spotted wilt virus (TSWV) has been found in Tennessee crops each year since 1986. The primary crops affected are tobacco, tomato, peppers, and certain greenhouse ornamentals.

Symptoms: The distribution of infected plants in a field is typically scattered, with relatively few plants affected. However, extensive losses can occur, since spread can continue on tomatoes throughout the summer. Symptoms can vary, but are most often a generalized necrosis (blighting) of young leaves. This distinguishes it from fungal leaf blights, which often begin on the lower leaves. Young plants may be stunted and pale, and exhibit purpling of leaf veins on the undersides of leaves. Purple to bronze lines, circles, and “freckles” may appear on leaves. Stems may also show such lines. Occasionally, blighted tissue is black. Infected, ripe fruit has noticeable yellow and red concentric rings. Some fruit have a dark, rough, “alligator” skin.

Spread: TSWV is spread by tiny insects called thrips. Spread may stop on its own if the weather is hot and dry, because of the effect of such weather on the thrips vector. Otherwise, spread can continue on tomatoes throughout the growing season.

Control: Insecticides with thrips activity can slow the spread if applied early and often, according to the label. For home gardeners, likely candidates would be pyrethroid materials such as Bug-Be-Gon and spinosad materials such as Ferti-Lome’s Borer, Bagworm, Leafminer, & Tent Caterpillar Spray. Insecticides for commercial growers would be Lannate, SpinTor, and Monitor. Some degree of control can be obtained in commercial plantings with an insecticide program that includes Admire at planting and continues with foliar applications of Lannate, Monitor, or SpinTor.

Amelia, Crista, BHN 640, Talladega, Quincy, Red Defender, and Nico are resistant varieties.

Reflective mulches can help to control TSWV by causing fewer thrips to land on the tomato plants. A reflective mulch can be produced by placing aluminum foil, shiny side up, on the ground around the plants. Do not attempt to remove affected plants. Doing so can cause movement of the thrips vectors. Furthermore, TSWV-infected tomato plants sometimes grow out of the condition and produce normal fruit.



Precautionary Statement

In order to protect people and the environment, pesticides should be used safely. This is everyone’s responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store, or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

Disclaimer Statement

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticides registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by the University of Tennessee.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.