



Figure 1. Thrips.



Figure 2. Discoloration from TSWV and deformation from thrips in peanut leaves.



Figure 3. Discoloration of peanut leaves.

soil. Six species of thrips can transmit TSWV. Western flower thrips, onion thrips, and tobacco thrips are among the vectors for TSWV that occur in Florida.

Thrips arise from eggs deposited in tender tissues of stems, leaves, or flowers. The immature forms (larvae) begin feeding as soon as they hatch. When



Figure 4. Plant stunting and ringspots in leaves of peanuts.

larvae (wingless) feed on infected tissue for 15 minutes or more, they may acquire the virus internally. As the feeding period lengthens, the probability for the thrips to acquire the virus is increased. Full-grown larvae fall to the soil and become pupae that do not feed on the plant. Later, winged adults emerge from the pupae. Only adults are capable of transmitting the virus to a plant. Adult thrips may carry the virus for its entire life, but the virus is not passed on to the egg stage. The next generation acquires the virus by feeding upon infected plants. The time from the egg to the adult stage varies with many factors but has been measured at 14 days at 85°F (29°C) for western flower's thrips.

In north Florida, populations of thrips found in flowers have been highest from late April to early June. It is during and shortly after this time that symptoms of TSWV begin to appear in tomatoes, peanuts, peppers, and tobacco in north Florida. During the summer, active populations of thrips in flowers have declined followed by a small increase in populations in the fall. Thrips that inhabit leaves feed actively on peanuts, tomatoes, and other plants during the summer months in north Florida.

Up to the spring of 1990, the occurrence of TSWV in tomatoes, for example, has been highest in the spring when populations of flower-inhabiting thrips are highest. Fall plantings of tomatoes, when populations of flower-inhabiting thrips are lower, had lower incidences of TSWV than spring plantings in 1986, 1987, 1988, and 1989. However, in summer plantings of tomatoes in 1990 in the south Georgia and north Florida area, incidences in some fields exceeded 50%. In Hawaii, populations of thrips tend to be high during most of the year, which may explain partially why TSWV has been so severe there for many years.

Plant sap from an infected plant can be a source of TSWV. Thus, any kind of mechanical injury to an