

May 31, 2011 Tomato Spotted Wilt Virus Update #4

As of late May, below-average temperatures for much of the season have slowed tomato growth and development of thrips populations, as revealed by lower than normal yellow sticky card counts. However, thrips populations are present in processing tomato fields, especially in Fresno and Kings Counties. Weekly counts from yellow sticky cards placed in processing tomato fields in the Fresno and Kings County have revealed population densities ranging from slightly over 100 to as high as 1000/yellow sticky card for mid- to late-May. Although these populations are relatively low, compared to previous seasons, thrips development is occurring, including the potential for emergence of a new generation of adult thrips. Taken together with the fact that Tomato spotted wilt virus (TSWV) has been detected in a number of fields, there is the potential for rapid increase in tomato spotted wilt incidence over the next few weeks. Thus, it is important for thrips treatments to be applied now, particularly in fields and areas where TSWV infections have been confirmed (see below).

TSWV has now been detected at low levels in a number of fields in Fresno and Kings Counties (at or below 1% in a portion of the field). With the exception of a couple of fields that had higher incidences of TSWV early in the season, levels are not above 2% in any portion of our monitored fields or in other fields that have been surveyed to date. Most of the TSWV outbreaks have been observed in the western production area in Fresno County, north of Shields along I-5, through the Five Points area including areas around Huron, and as far south as Plymouth Ave. Very recently, the virus was present in the San Diego/Jensen area west of Mendota. We have not detected TSWV in the area of San Joaquin or Tranquility. While there have been reports from the Shields Ave area, these are not far from I-5 and the virus has not been detected to the east. On the other hand, very little or no TSWV has been observed in monitored fields in Colusa, Merced and Yolo Counties; and thrips populations remain very low (less than 100/card) in these areas. These low populations have been attributed to the unseasonably cool temperatures in these northern counties.

The greatest likelihood of experiencing economic losses to TSWV is when plants are infected at the early stages of crop development and these **early infected plants amplify** the virus and serve as important inoculum sources for later planted crops.

This is a critical time to treat with effective thrips control materials, especially in fields or in fields in production areas where TSWV has been detected.

Materials that have repeatedly provided effective Western flower thrips control in replicated field trials in tomatoes in Fresno County include Radiant, dimethoate and Lannate. Radiant, while it is the most expensive of these materials, is also the safest for workers and beneficials. It is also important to emphasize that while neonicotinoids (e.g., imidacloprid and thiamethoxam) provide excellent control against aphid and leafhoppers, these materials have not performed well against thrips in UC trials in Fresno County and should not be used as a stand alone material for thrips control.

Finally, it is important to keep in mind that other viruses also infect tomatoes in the Central Valley of California, including curly top viruses, Alfalfa mosaic virus, and Tomato necrotic spot virus. Furthermore, the symptoms caused by these viruses can be confused with those caused by TSWV. Thus, it is important to have suspected outbreaks of TSWV confirmed to avoid making unnecessary treatments for thrips (these other viruses are not spread by thrips). This can be done by providing samples to your UC Farm Advisor for testing.

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