

# Tomato Spotted Wilt Virus Update

## California Processing Tomato Production Areas

August 25, 2011

In some fields harvest is 2 weeks later than projected, so it is likely that there will be many processing tomatoes in the processing tomato production areas later than on an average year. Our surveys in Fresno/Kings, Merced and Yolo/Colusa production areas have shown scattered presence of TSWV. Although thrips population densities are high, overall levels of TSWV remain low (<1-5% in most fields), but there are exceptions. Tomato spotted wilt virus infection that occurs while tomato plants are at the stage of development that our crops are at now is very unlikely to result in economic loss.

The greatest challenge now is effective sanitation (destroying old harvested crops) and management of thrips and TSWV susceptible bridge crops, such as fall lettuce or radicchio. These crops are most vulnerable to infection if planted adjacent or nearby (e.g., less than ½ mile away) from plantings of pepper or tomato with known TSWV infections and high populations of thrips. It is also worth mentioning that tomato plants carrying the Sw-5 gene generally do not show symptoms of TSWV infection, but they are infected with the virus. Thus, they have the potential to serve as source of TSWV for susceptible bridge crops.

### THRIPS DENSITIES

Thrips population densities are very high (>1000 thrips/card and >5 thrips/flower (collected every 2 weeks) in most fields in all of the surveyed locations the Fresno-Kings, Merced and Colusa-Yolo production areas. TSWV is now being detected in some thrips samples, though not in the majority of cases.

### TSWV INCIDENCE

FRESNO-KINGS AREA: With the exception of two fields, no monitored fields have or had more than 5% of plants with TSWV symptoms. In terms of the fields that currently have relatively high levels of symptomatic plants (>15%), which are located southwest of Mendota along I-5, there have not been increases in the level or distribution of the viral symptoms. Although there was a field in northwestern Kings County with more than 7%, it was harvested in late-July. No TSWV has been detected in several monitored fields in the areas near San Joaquin and Firebaugh in Fresno County.

YOLO-COLUSA AREA: Although thrips population densities continue to be very high in all monitored fields, TSWV incidences have remained low (<1%) in most monitored fields. One exception is a monitored field in Sutter County, where TSWV incidence has reached 15% in some parts of the field.

MERCED: Thrips population densities vary among monitored fields in Merced, but remain moderately high. Levels of TSWV remain low in most monitored fields (<1-5%), although one field had levels of 15% infection levels.

### **AVOID PLANTING LETTUCE NEAR TOMATOES OR PEPPER WITH TSWV!!**

Ideally, planting a susceptible crop, like lettuce, near TSWV-infected tomatoes (or peppers) should be avoided if possible. Realistically, this is not always possible. Because the tomatoes are likely to remain in the area longer than during an average year, there is even higher risk for TSWV in lettuce.

Therefore, There is a very real risk to the lettuce when it must be planted next to or close by (< 0.5 miles) from TSWV-infected tomatoes (or peppers). This is because it is likely that large numbers of TSWV-carrying thrips will move in the direction of prevailing winds at the time of the harvest of processing tomatoes. In this case, we highly recommend to growers to be vigilant by conducting thorough monitoring of these fall crops (i.e. lettuce and radicchio) for thrips populations with yellow sticky cards and for TSWV infection by walking the fields regularly and conducting visual inspections for TSW. Please remember, correct identification of the problem is the key in order to make the right decision for prevention or implementation of a solution (spraying for thrips)! A use of immunostrips (dip-stick tests) can provide on site confirmation of TSWV infection.

### **FEEL FREE TO ASK QUESTIONS OR SEND US SAMPLES**

As always, we encourage growers to contact us with any questions or for a field visit. We are particularly interested in confirming outbreaks of TSWV or other viruses in growers' fields. This year, we are surveying more fields as part of an attempt to better determine the level of TSWV incidence that can result in yield loss and we are developing a thrips predictive model for thrips populations and a field risk index to provide growers more tools with which to fight thrips and TSWV.

### **Contacts for the UC TSWV Team:**

#### **University of California Advisors**

**Brenna Aegerter - San Joaquin 209-953-6114**

**Gene Miyao - Solano/Yolo 530-666-8732**

**Michelle LeStrange - Kings/Tulare 559-799-1250**

**Scott Stoddard - Merced 209-385-7403**

**Tom Turini - Fresno 559-375-3147**