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Special Note:

UCCE farm advisors conducted the last processing tomato statewide variety trial in 2013, ending 40+ year continuous variety evaluation program. The report is posted on the Vegetable Research Information Center website at

http://vric.ucdavis.edu/veg_info_crop/tomato.htm

CA 2013 production: 12.11 million tons

2013 rainfall was only 4.77 inches

Winter 2014 — Pray for rain.



Scott Stoddard
Farm Advisor

Upcoming Meetings of interest:

- 20 January 2014 (Mon), UCCE Classroom, 9:30 am - noon. 6 Feb 2014 (Thurs), UCCE Classroom, 1:30 pm - 3:30 pm. Metam stewardship class. Required for all growers/applicators who will use metam (metam sodium and metam potassium) this year. Contact Merced County Agriculture Commissioner for more information at 209-385-
- 28 January 2014 (Tues)- N. San Joaquin Valley processing tomato production meeting in conjunction with CA Tomato Growers Association annual meeting, DoubleTree Hotel, 1150 9th St, Modesto. 8:00 am to 11:00 am. Registration required for CTGA luncheon. [See back page for schedule.](#)
- 4-5 Feb 2014 (Tues-Wed) - CA Plant and Soil Conference and CA CCA Annual Meeting. Radisson Hotel & Conference Center, Fresno, CA. Registration required, \$190 includes lunch both days. <http://calasa.ucdavis.edu>

General Notes:

Curly Top Virus (BCTV), Roundup drift, and Fusarium were the majority of problems I observed in 2013 on tomatoes. By far, Curly Top impacted more fields than any other issue, here and other areas of the San Joaquin Valley. This was the result of both high populations of the insect vector for this disease, the beet leafhopper, and high levels of the virus in natural areas, weeds, and crops. Curly Top was the main reason processing tomato production for the state was down by about 1 million tons from contract intentions. Many fields were obviously infected early in the season and had plant losses of 30 - 100%. Additional losses occurred, however, from secondary infections later in the season as a result of weed management along ditches and roads. When road right-of-ways were mowed, for example, the leafhoppers were flushed onto adjacent fields. Since the crop was already well established when this happened, infected plants were less obvious — many sick plants were covered up by adjacent plants. Depending on location, this caused 10 -25% plant infection.

Note that a 25% plant infection does not equate to a 25% yield loss, since the other plants will partially compensate. I estimate our yields were reduced by 10 - 15%.

There is no genetic resistance to BCTV in commercially available tomatoes, so the management options to limit losses from this disease were pretty much limited

January, 2014

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to systemic pesticide injections (e.g. Admire Pro) beginning at the beginning of the season. Others were lucky to simply avoid late season flushes of leafhoppers. So overwhelming was the BCTV problem in 2013, however, that for all practical purposes there was little that could be done. Even melons were infected in Fresno County — something that has never been observed by either Farm Advisor Tom Turini (Fresno County) or Bob Gilbertson, Virologist from UC Davis.

TSWV was not an issue this year, however, despite being a chronic problem for the last several years. There is no good explanation why TSWV went away, and Curly Top was so bad.

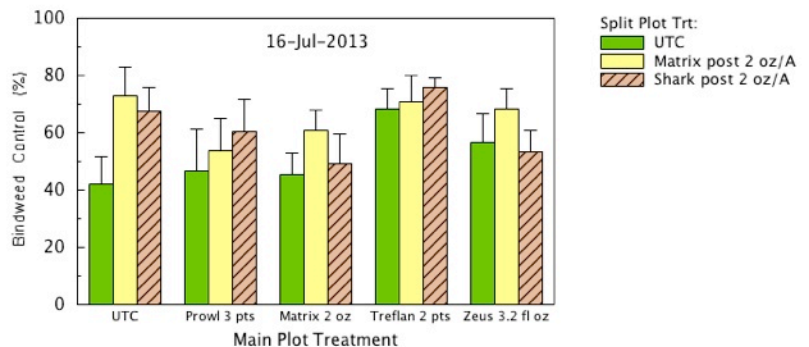
Glyphosate (Roundup) drift was another big problem on tomato fields this year, probably because we experienced such a windy spring and early summer. I am sure that some of the problems attributed to Curly Top were actually caused from herbicides being sprayed in ditches and field borders, and from adjacent Roundup Ready corn and cotton. Symptoms on foliage can resemble Curly Top: yellowing and purpling of leaves with stunted growth.

Fusarium Crown and Root Rot, *Fusarium 2*, and *Fusarium 3* continue to be a growing problem for the tomato industry. Fusarium crown and root rot has always occurred infrequently throughout California's production regions, but has recently become more prevalent and severe. According to Gene Miyao, farm advisor in Yolo County, it has become the dominant problem in many fields in northern California under both drip and furrow irrigation. It causes stunting and brown lesions to develop on the taproot.

Race 3 was previously only a problem in the northern production areas, but has now been confirmed in multiple areas in Merced County and as far south as Firebaugh in Fresno Co. Currently, there is no resistance to Race 3 in commercial varieties, though we know that some varieties are more susceptible (H9780 is a good example). The seed companies are working towards F3 resistance, and several new lines show promise. Until the breeders incorporate effective resistance into commercially acceptable varieties, there is little that can be done to control Race 3 in tomatoes other than limit it's spread by cleaning equipment and choosing varieties more tolerant of the disease.

Bindweed management. Field bindweed cannot be controlled in tomatoes with our existing arsenal of registered herbicides, only suppressed. Research trials over multiple site-years with myself, Tom Lanini (UC Davis), and Lynn Sosnoskie (UC Davis) have given bindweed control of 50 - 90% in processing tomatoes, but more often results are towards the lower end of the this range. The best combination evaluated thus far:

- Glyphosate (Roundup) to emerged bindweed prior to transplanting. Lynn Sosnoskie showed significant improvement at the end of the season when this was done — overall it improves control 10 - 20%.
- Treflan PPI. Trifluralin at 2 pints per acre pre-plant incorporated has been the best single herbicide to suppress bindweed, usually providing about 50% control as compared to untreated controls. It is important that this herbicide not be incorporated too deep, as tomato phytotoxicity may otherwise occur.
- Matrix (rimsulfuron), 2 oz per acre, applied after transplanting just when the field bindweed is starting to reappear on the top of the beds. This is therefore a POST application, and so a surfactant/adjuvant should be added. This adds another 20% control to the program. Note that Matrix is also labeled for PRE-emergent use, and then incorporated with sprinklers. It is an effective herbicide when applied PRE for many weeds, but bindweed control is better when applied post.
- Roundup at the end of the season. If there is enough residual moisture in the beds following harvest and the bindweed starts pushing again, burn it back with another application of glyphosate, or glyphosate + Shark (carfentrazone) tank mix.



UC Cooperative Extension Northern San Joaquin Valley Processing Tomato Meeting

held in conjunction with

The California Tomato Growers Association (CTGA) Annual Meeting

Tuesday, January 28, 2014 8:00 - 11:00 am

Modesto Double Tree Hotel

1150 9th St, Modesto, CA, 95354

<http://ctga.org/CTGA-News>

PROGRAM

- 8:00 Scott Stoddard, Farm Advisor, UCCE Merced & Madera Counties. Welcoming remarks.
- 8:05 Scott Stoddard. Weeds galore! A summary of field bindweed management trials.
- 8:20 Brenna Aegerter, Farm Advisor, UCCE San Joaquin County. Variety trial update.
- 8:40 Gene Miyao, Farm Advisor, UCCE Yolo, Solano, & Sacramento counties. Evaluation of composted manures and of chemigations on tomato plant health.
- 9:00 Tom Turini, Farm Advisor, UCCE Fresno County. Case study: changes in soil salinity over three years in drip irrigated tomatoes.
- 9:20 Bob Gilbertson, Professor Plant Pathology, UC Davis. *The 2013 Outbreak of Beet curly top virus* in tomato and other crops: What we know and what we don't know.
- 9:40 coffee break
- 10:00 Kurt Hembree, Farm Advisor, UCCE Fresno County. Potential herbicide carryover in buried drip fields.
- 10:20 Larry Schwankl, UCCE Irrigation Specialist, Kearny Agriculture Center. Maintaining Your Micro irrigation System.
- 10:40 Richard Hoenisch, National Plant Diagnostic Network, UC Davis. Brown Marmorated Stink Bug biology and impact on agriculture.
- 11:05 visit vendors.
- 12:00 CTGA luncheon.

Continuing Education Units (CEUs) CDPR: 2.0; CCA: 2.5

This Cooperative Extension sponsored meeting is free and open to the public. The meeting room and refreshments are generously provided by the California Tomato Growers Association, Inc.

Pre-registration is required to attend the California Tomato Growers Association Annual Meeting.

Please contact CTGA at (916) 925-0225 or ctga@sbcglobal.net

Hope to see you there

Scott Stoddard
Farm Advisor