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<p>IN THIS ISSUE:</p> <ul style="list-style-type: none"> ✓ UCCE/CTGA meeting ✓ Production Notes ✓ Fusarium race 3 <p>Special Note:</p> <p>CA Processing Tomato Production: 2013: 12.11 million tons 2014: 14.01 million 2015: 14.36 million</p> <p><u>Merced rainfall:</u> 2012/2013: 8.3" 2013/14: 5.2" 2014/2015: 7.2" YTD: 5.4"</p> <p>Scott Stoddard Farm Advisor</p> 	<p style="text-align: center;">UC Cooperative Extension</p> <p style="text-align: center;">Northern San Joaquin Valley Processing Tomato Meeting</p> <p style="text-align: center;"><i>held in conjunction with the California Tomato Growers Association (CTGA) Annual Meeting</i></p> <p style="text-align: center;">Wednesday, January 27, 2016 8:00 - 11:00 am Modesto Double Tree Hotel 1150 9th St, Modesto, CA, 95354</p> <p>PROGRAM</p> <p>8:00 am Scott Stoddard, Farm Advisor, UCCE Merced & Madera Counties. Welcoming remarks.</p> <p>8:05 Brenna Aegerter, Farm Advisor, UCCE San Joaquin County. <i>Tomato disease update.</i></p> <p>8:25 Tom Turini, Farm Advisor, UCCE Fresno County. <i>Managing stink bugs with insecticides.</i></p> <p>8:45 Gene Miyao, Farm Advisor, UCCE Yolo, Solano, & Sacramento Counties. <i>Yield response to potassium and supplemental composted poultry manure applications.</i></p> <p>9:05 Tim Hartz, CE Vegetable Crops Specialist, UC Davis. <i>Getting ready for nitrogen management plans.</i></p> <p>9:25 coffee break</p> <p>9:40 Kurt Hembree, Farm Advisor, UCCE Fresno County. <i>Summary of pre-plant herbicide carryover studies in buried drip fields.</i></p> <p>10:00 Rich Ozminkowski, The Kraft-Heinz Company. <i>Beyond VFFNP – breeding for the “new” generation of California diseases.</i></p> <p>10:20 Chuck Rivara, California Tomato Research Institute. <i>Twenty-five years with CTRI: summarizing the past, anticipating the future.</i></p> <p>10:40 What’s New from Bayer (Paul Walgenbach), DuPont (Carl Bannon), BASF (Leigh Ann Harrison), and Syngenta (Don Lewis).</p> <p>11:05 Visit vendors at trade show.</p> <p>12:00 CTGA luncheon.</p>
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January, 2016

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Continuing Education Units (CEUs) CDPR: 1.5; 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

Other Meetings of Interest:

- Feb 2, 2016 (Tues), UCCE Classroom, 1:30 pm - 3:30 pm. 2nd 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 209-385-7431.
- Feb 2 & 3, 2016 (Tues-Weds). CA Plant and Soil Conference and CA CCA Annual Meeting. Wyndham Hotel, Visalia (former Holiday Inn at the 99/198 interchange). Registration required, \$195 includes lunch both days. <http://calasa.ucdavis.edu>.

General Notes:

Even with severe water restrictions, Merced County had a good year, especially for processing tomatoes. Based on PTAB reports, 2015 production was 1.39 million tons from 27,000 acres (contracted). If the acreage estimate is correct (probably actual area was higher), that would give an average yield over 51 tons/A, which is exceptional. The yield per acre was about the same as 2014 in spite of the drought. Growers in the Exchange Contractors irrigation districts benefitted from a limited amount of canal water. The summer had more heat units than normal, which pushed the crop, but also resulted in some new challenges for some growers. Notably, white flies were a problem in some late fields. Losses from Curly Top occurred throughout the season, but were usually less than 20%.

The state, and the world in general, processed a lot of tomatoes in 2015. As a result, inventories are no longer depleted, and the industry has arrived at the delayed but predictable peak in the normal 5 year production cycle. Expect both acreage and price to be down in 2016. How far down is hard to estimate. One million tons less than last year may be needed, but this is probably too severe of a reduction for most processors.

Fusarium wilt. Fusarium wilt race 3 continues to be a growing problem for the tomato industry, especially in Merced County and parts of Fresno County. Other variants of Fusarium were also a problem on cotton, melons, and sweetpotatoes. It was my number one farm call this past year. According to Tom Turini, Fresno County farm advisor, Fusarium wilt and Fusarium crown and root rot have been detected in Fresno County, and varieties with resistance to Fusarium wilt Race 1 and 2 can be damaged by either of these pathogens. With the widespread use of resistant varieties, Fusarium disease in Fresno County tomatoes was a rare event prior to 2014.

Fusarium race 3 typically causes a bright yellowing of the leaves, followed by wilting and eventually, death. Its formal name is *Fusarium oxysporum* f.sp. *lycopersici* race 3. It is a fungus that lives in the soil and infects roots of tomatoes. Unlike the Fusarium race 4 pathogen that attacks cotton, infected plants are usually noticed much later in the growing season, often after the plants have covered the beds. The symptoms frequently occur on



Fusarium symptoms are often one sided, causing yellow leaves on just part of a plant, though eventually the whole plant succumbs and dies.

one side of the plant first. When infected plants are cut, the interior of the stem has dark orange to brown discoloration, but sometimes not throughout the entire plant, and it may be relatively subtle. Because *Fusarium* can look like *Verticillium* and sometimes even *Phytophthora*, laboratory tests should be conducted for correct diagnosis.

Race 3 was previously only a problem in the northern production areas, especially the Sutter Basin, but has now been confirmed in multiple areas in Merced County and as far south as Firebaugh in Fresno Co. Most likely this disease was moved into this area by contaminated soil and crop debris on harvesters, trailers, and farm equipment from northern California, but it is puzzling why it has only recently shown itself to be a problem. Merced County is a traditional late harvest area and so its appearance here is not unexpected, but the Sutter Basin has been dealing with this disease for 30 years.

Management. Currently, management guidelines for this disease are minimal: variety resistance and rotation. Unfortunately, there only a handful of commercial varieties with resistance — of the top 12 varieties in 2015, none have F3 listed as part of their disease tolerance rating. However, the seed companies are working towards this goal, and several new lines show promise and will be available soon. UCCE farm advisors will be conducting F3 variety trials this coming year to evaluate these new lines in fields with a history of this disease.



Fusarium symptoms can progress quickly and lead to other secondary diseases, and may look like phytophthora.



Fusarium oxysporum f.sp. melonis race 1 & 2 causes Fusarium wilt in melons and can occur both early and late in the production season.

F3 management option		Notes
Variety resistance	SV8232TM, CXD282, BQ141, BQ142, N6412, H1310, BP2	limited seed availability
Rotation	rotating out of tomatoes for several years will reduce but not eliminate the pathogen	some alternate crops can be a host for the disease
Compost/manure	heavy rates (>10 tons/A) have improved yield but not reduced disease incidence.	Gene Miyao, 2015.
Fumigation	Research in Florida on sandy soils has shown reduction of Fusarium with Telone	not evaluated under California conditions
Fungicides/biologicals	Registered materials for seed coatings can provide early season suppression	not evaluated for transplants

Scott Stoddard
Farm Advisor

