TSW symptom incidence in processing tomato varieties, 2008

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Among processing tomato varieties, differences in incidence of Tomato spotted wilt virus (TSWV)-symptom incidence was observed in variety trials in 2008. Thirteen mid-maturity (>118 days) processing tomato varieties were evaluated at the West Side Research and Extension Center (WSREC) as one of six sites at which the 2008 UCCE Statewide Processing Tomato Variety Evaluation Trials were conducted. Detailed results from the statewide trials can be found at http://cemerced.ucdavis.edu/files/60020.pdf.

At the WSREC site, three trials were conducted comparing mid-maturity varieties. All trials were on a Panoche Clay Loam and were drip irrigated. The experimental design for all three studies was a four replication randomized complete block. Plot size was one 66-inch bed x 70ft row, single plant row per bed. Details for each trial were as follows:

	Plant date	First irrigation	TSWV evaluation	Harvest
Mid #1	16 Apr (transplant)	16 Apr	18 Aug	21 Aug
Mid #2	13 May (transplant)	13 May	16 Sep	18 Sep
Mid #3	12 May (direct seed)	13 May	23 Sep	24 Sep

The number of plants expressing TSWV-symptoms was recorded one to three days before harvest in each 70 ft plot. Plant canopies were moved and carefully inspected. Shoots which bore symptomatic fruit were traced to a plant to help ensure that the count was accurate. Representative samples were tested with TSWV immunostrips (AgDia).

Differences in the number of plants expressing TSWV-symptoms were present among entries in the three mid-season variety trials conducted at WSREC. The variety AB 8058 has genetic resistance to the virus and incidence was 0 or very low. However, among susceptible varieties, incidence differed significantly P=0.05 (see table below)

Plants expressing Tomato spotted wilt-symptoms per 70 ft long single row plot in varieties evaluated at West Side Research and Extension Center, Fresno County, 2008

Entry	Transplanted 16 Apr			Transplanted 15 May			Direct Seeded 12 May		
AB 2	6.0	(10)	cd	13.3	(5)	abc	3.8	(7)	cd
AB 8058 (SW5)	0.0	(13)	e	0.5	(13)	f	0.3	(13)	e
H 2005	4.3	(11)	cde	7.8	(10)	cde	3.0	(8)	d
H 2601	7.3	(7)	c	17.2	(1)	a	8..0	(2)	b
H 4007	7.7	(6)	c	10.0	(9)	bcd	2.8	(10)	de
H 8004	20.3	(1)	a	16.0	(2)	ab	11.3	(1)	a
H 9780	7.0	(9)	cd	12.8	(6)	abc	2.8	(11)	de
HM 6898	18.7	(2)	a	13.8	(4)	abc	6.0	(3)	bc
NDM 5578	13.3	(4)	b	12.0	(7)	abc	4.5	(4)	cd
NUN 672	14.0	(3)	b	15.0	(3)	ab	4.3	(5)	cd
PX 1723	7.3	(8)	c	11.5	(8)	abcd	3.8	(6)	cd
SUN 6368	2.7	(12)	de	5.3	(11)	def	2.0	(12)	de
UG 4305	8.7	(5)	c	3.0	(12)	ef	3.0	(9)	d
$LSD_{0.05}$	4.45			6.61			2.67		
CV(%)	29.26			43.41			43.81		