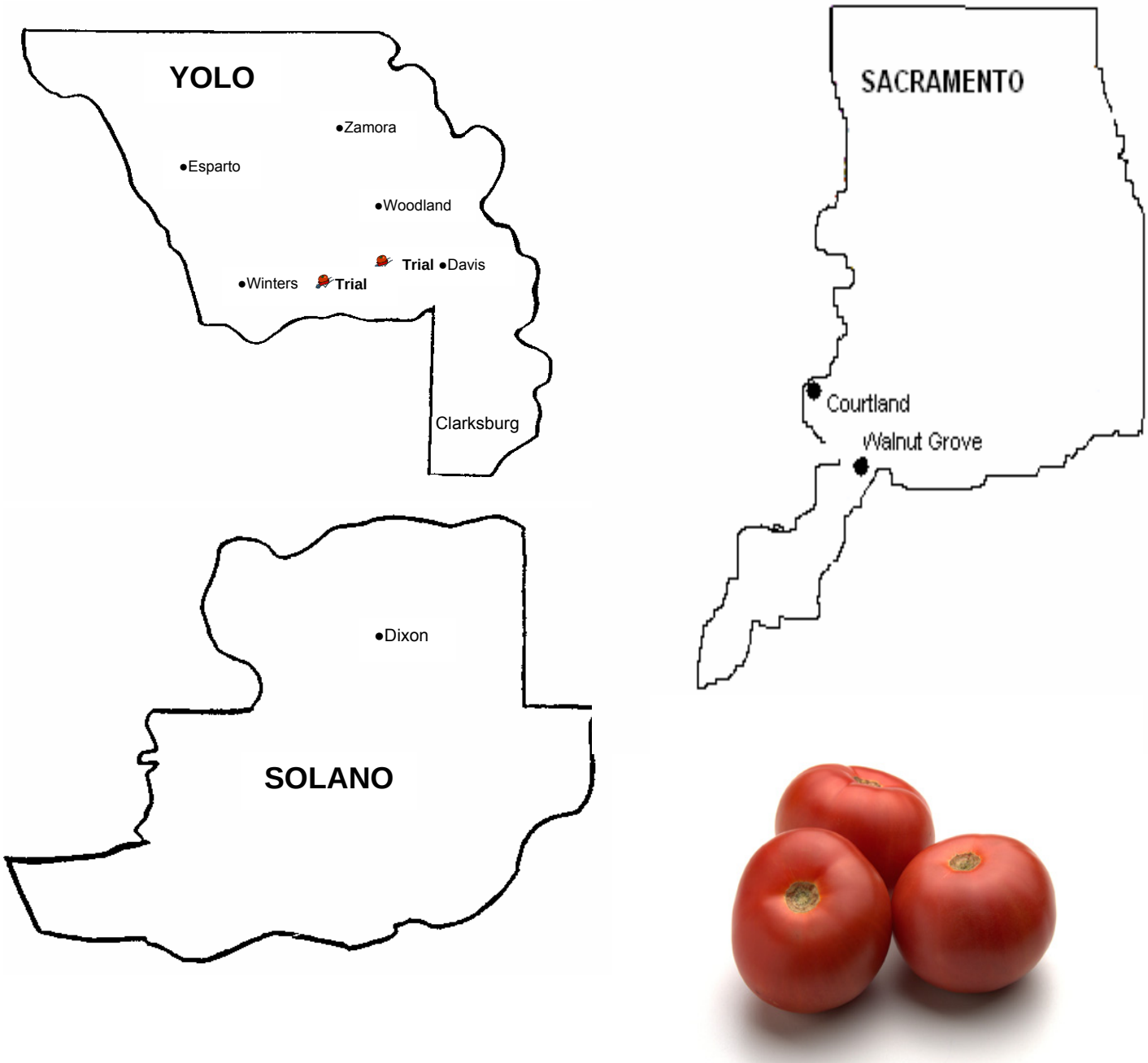
2005 Processing Tomato Variety Trials



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FUNDING SUPPORT:
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SEED COMPANIES
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Jan 2005 120 copies

Cooperative Extension in Agriculture and Home Economics. US Department of Agriculture, University of California and Yolo County Cooperating.

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Summary of Yolo/Solano/Sacramento Counties 2005 Processing Tomato Variety Evaluation Trials

by

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Weather conditions for 2005 included significant rain in each month through June with pleasantly mild temperatures in June. Temperatures then switched to extended periods of high heat. Daily maximum temperatures reached 100°F or above for 17 days in July and 14 days in August. Moderate temperatures followed with only 9 days above 90°F in September and a single day above 90°F in October. Consequently, the pattern began with good conditions for fruit set (if foliar bacterial diseases were held in check), followed by extreme temperature conditions reducing flower set and ending with cool weather that caused delayed, poor ripening. Post harvest, the fall weather was relatively dry for an extended period to allow completion of fall ground preparation.

Statewide production in 2005 was slightly under 9.6 million tons with a reduction in acreage and a lower average yield from the previous year.

With lower yields due primarily to high temperature conditions during the peak flowering period for many acres, we note that tomato growers are looking more closely at production expenses and income generation. Some producers are shifting some production out of tomatoes into alternative crops including trees, dominated by almonds.

Another major developed is the dual pricing of tomato seed to create a differentiate seed package: one for greenhouse use and the other for direct field seeding. The dilution with dead seed as a filler lowers the germination percent to exclude its use in transplant-producing greenhouses. High percent germination seed to needed to maintain tray fill and to produce more uniform plants. Price of seed for the greenhouses is tripling compared to the field-seeded package of the same variety. It will be interesting to observe the grower response to either stay with transplants or to return to direct seed methods. Direct seeding would seem to be favored given the change in pricing. Other economic considerations such as hand labor availability and weeding costs could counter a return to direct seeding.

Variety Evaluation Trials

Evaluation of varieties for local adaptation continued to be a part of the University of California farm advisor program. Our objective was to identify dependable, high yielding and high quality variety releases that can be grown over a wide geographic area under varying environmental conditions. The varieties were compared side-by-side in an experimentally sound designed test within local counties in the Central Valley from Colusa to Kern. Tests were conducted in a uniform fashion to compare local results with tests by UC farm advisors in other locations.

Entries:

Varieties were selected in consultation with processors and seed companies. The early-maturity trial included 10 replicated varieties (table 1A). Variety standards were Heinz 9280, HyPeel 45 and APT 410. Only replicated varieties were evaluated in the early test. All varieties in the early trial had VFFNP resistance, except HA 3523 with VFFN only.

In the mid-maturity trial, 16 replicated and 15 observational varieties were included (table 1B). Mid-maturity standards were Heinz 8892, H 9665, Halley and AB 2. Most of the varieties had nematode and/or bacterial speck resistance.

Locations:

The local early trial was east of Winters with Button and Turkovich Ranches. The mid maturity trial was west of Davis with J.H. Meek and Sons.

Other UC tests were conducted by farm advisors representing Colusa, San Joaquin, Contra Costa, Stanislaus, Merced, Fresno and Kern counties.

Methods:

The early-maturity trial was direct seeded at 15 seeds per foot per seed line with a tractor-mounted, research-plot planter. Twin lines were a foot apart from each other, centered on the bed. Five reps were included in the trial planting. Plants were later hand thinned to a clump of 2 to 3 plants, 9 to 12 inches apart in each of the seed lines.

The mid-maturity trial seedlings were commercially grown in a greenhouse. Plants were pulled from trays, counted, bundled and bagged ahead of the field planting. The grower's equipment and crew mechanically set the transplants. Skips were filled within a day of the planting. The few transplants that did not survive were replaced over a 2-week period.

All plots were 100' long and centered on a 5' bed. A short alley separated blocks within rows.

Selected varieties were planted in each of 4 or 5 blocks while an additional group of observational varieties was planted in single plots. All cultural practices in these ~1 acre experimental sites were those of the cooperating grower and matched management of the remaining larger area of their commercial tomato field.

Field meetings were held at each trial site as fruit ripened to provide an opportunity to examine the performance of the varieties in side-by-side comparisons.

For fruit quality comparisons, near the date of mechanical harvest, a ~7 pound sample of red ripe, non-defect fruit was selected from each plot and delivered to a local inspection station of the Processing Tomato Advisory Board for the early-maturity trial. Upon mechanical harvesting for yield, the early trial was re-sampled and the mid-maturity trial was only sampled from fruit collected off a sorting belt to submit to PTAB. Color, °Brix (soluble solids) and pH were determined by PTAB with a procedure consistent with commercial grading. Additionally, similar samples were hand picked by the Diane Barrett Lab of the UC Davis Food Science and Technology Department to evaluate processing quality.

To measure yield, fruit from the entire length of the plots were harvested into special weigh trailers using the grower's harvesting equipment and crew. A 5-gallon volumetric sample of unsorted fruit was taken from the mechanical harvester to evaluate fruit defects.

Statistical analysis of variance methods were used to help interpret the data. Conclusions derived from non-replicated data should be viewed with much less confidence

EARLY-MATURITY EVALUATION: WINTERS

Early-maturity varieties were evaluated in a Button and Turkovich field east of Winters. We planted on February 9th into twin seed lines per bed in a class 2 soil (Table 2A). Substantial rainfall followed planting. Seeds were caught in a thick, rain-packed crust and required multiple passes with a mechanical crust breaker to aid emergence. The high seeding rate of 30 seeds per linear foot of bed provided an adequate stand by March 6th. Vines grew well during the season. Vines weakened during fruit ripening under the extended high temperatures in July. The trial was harvested on August 5th.

Table 4 early replicated—yield, fruit quality and culls: The trial averaged 36.4 tons per acre. The highest yielding group was led by H 5003 with 43.1 tons per acre, and included BOS 66508 and APT 410 with 40.2 and 30.5 tons, respectively.

The trial averaged 4.9 Brix at the time of mechanical harvesting. PS 740 led the high solids group with 5.3, but included HyPeel 45, H 5003, and BOS 66508 and APT 410 all with at least 5.0 Brix. Color was best with BOS 66508 with 24.0 and PS 740 with 24.4, but included 4 others in the top group. Fruit pH was lowest with PS 740, HyPeel 45, BOS 66508 and H 9280 with 4.32, 4.33, 4.39 and 4.39, respectively.

Level of below-colored fruit was only a few percent for pinks and for green fruit. Mold and blossom end rot percent was also low across varieties, except U 446 had 4% end rot. Sunburn was high, especially with HA 3523, H 9280 and HM 2853, all above 15%. U 446 vines completely collapsed in this trial with sunburn level averaging 44%. The varieties with the highest sunburn levels were also the lower marketable yielding varieties. The high yielding H 5003 had the smallest fruit as indirectly measured by fruit weight of a batch of 50 fruit.

Table 5 early replicated— emergence, vine size, canopy cover and estimated maturity: Seedlings were counted in 2, 5' strips in the central portion of each plot prior to hand thinning. Emergence averaged 16% and ranged from 11 to 26%. The low emergence was mostly due to a packed soil crust from rainy weather.

Vine size was difficult to judge with the twin row planting. The smaller-vined varieties in this test were U 446, H 9280, PS 740 and HA 3523, all at or below 80% of the row width. The larger-vined varieties included H 5003, HyPeel 45 and APT 410, all at or above 89%.

Canopy cover for fruit protection from sun damage ranged from 34 to 88%. The sparsest canopied variety was U 446 with 34% and H 9280 with 68%. A number of varieties had canopy covers above 80% fruit protection.

Visual rating of days to estimated harvest date was made relative to APT 410. The differences appeared to range from 0 to 3 days later on average, but without statistically significant separation.

MID-MATURITY EVALUATION: DAVIS (TRANSPLANTS)

Our local mid-maturity variety trial evaluation was transplanted with J.H. Meek and Sons west of Davis in Rincon silty clay loam, a class 2 soil. Seedling plugs were mechanically transplanted on May 6th in single lines per bed (Table 2B). Plants established well and grew quickly. The field was furrow irrigated. Vine growth and fruit set were good through early fruit size. Verticillium wilt was prevalent and vine health suffered resulting in early fruit exposure. The trial was harvested on September 2nd.

REPLICATED ENTRIES (DAVIS)

Table 6A mid replicated— yield, fruit quality and culls: Yields averaged 41.5 tons per acre. Eight of the 18 varieties were in the top-yielding group, led by AB 2 with 46.4 tons per acre.

Brix averaged 5.2. The superior Brix variety was H 5803 with 5.7°. None of the varieties averaged below 4.9.

Color averaged 23.8. The best colored varieties were led by Red Spring with 22.3 and H 5803 with 22.5, but included 7 other varieties, all with at least 23.5.

Fruit pH was lowest with Halley at 4.35, but the best group included 8 others with values less than 4.42. Fruit pH tended to be elevated with several varieties with levels above 4.50.

Cull levels of pink, green, mold and blossom end rot tended to be low to moderately low.

Sunburn level was high, averaging 12%. U 005, Sun 6360 and H 5803 had the highest levels at 23, 21 and 19% respectively. Standards, AB 2 had only 6% sun damaged fruit and Halley had only 8% damage. A number of other varieties fared well.

In addition, double plants were compared to single plants per plug using variety Halley and AB 2. There were no statistically significant differences in yield or fruit quality between 1 or 2 plants per plug. Fruit size was slightly smaller with doubles.

Table 6B mid replicated— vine size, canopy cover and estimated maturity: Vine size was fair with an average of 91% in this test. The larger-vined varieties were Sun 6368, H 2401, H 5803 and AB 2, and included 4 others. Red Spring and U 005 at 84% and 86% tended toward moderate-sized vine growth.

Canopy cover was evaluated shortly before harvest. Canopy cover at time of harvest of 80% or more is desirable, while levels below 50% are usually problematic for fruit protection from sun damage. Many vines collapsed during early fruit sizing after very good early growth. Canopy was extremely poor with U 005 at 45%, but also weak with Sun 6360, H 5803, H 9665, H 2401 and H 2601 with levels below 64%. Canopy cover was best with Halley, AB 2, H 8892 and PS 345 with levels all above 84%.

A visual estimate of days to harvest was assessed and compared to the standard H 8892. In this test, H 8892 was one of the earlier varieties along with Sun 6360, U 232, HMX 3859 Sun 6366 and H 2601. The late varieties in our test were PS 345, H 9665, H 5803 and H 2401 which appeared 4 to 6 days later maturing than our standard H 8892.

NON-REPLICATED ENTRIES (DAVIS)

Table 7A: mid observational—Davis: The highest yielding non-replicated variety was BOS 67374 with 53.4 tons per acre. The observational block averaged 45.5 tons per acre.

The Brix average was 5.3. H 8004 with 6.0 and Sun 6374 with 5.9 had the highest levels.

Color levels averaged 22.6 with HMX 4801 with the best color at 21, but with many varieties with 22 color.

Fruit pH levels averaged 4.43 with HMX 4798 the lowest level at 4.23.

Sunburn level averaged 8%. BOS 67374 was the lowest at 2%. Sunburn was only 3% with DRI 9730 and with HMX 4798. Sun damage was high with NDM 3379 at 17% and with U 567 at 14%. U 567 also had 6% mold levels.

Blossom end rot was highest with HMX 4798 at 3%.

Pink and green fruit percent were relatively low.

Table 7B mid observational— vine size, canopy, and estimated maturity: Vine size ranged from 100% with De Ruiter DRI 9730 to a moderate sized 75% with U 519.

Canopy cover near the time of harvest was best with BOS 67374, DRI 9730 and HMX 4798, all at 90%. Vines were weakest with NDM 3379 at 40%, U 519 at 60% and H 9780 at 65%.

A visual assessment of maturity ranged from 4 days earlier than H 8892 to 6 days later.

Statewide compiled data from other UC advisor tests were not available at printing time. Results will be posted at UC Vegetable Research and Information Center at:

http://vric.ucdavis.edu/issues/newissue.htm

The information will also posted at the UC Coop Extension, Yolo County website**:**

http://ceyolo.ucdavis.edu/Vegetable%5FCrops/PROCESSING_TOMATO_VARIETY_TRIALS.htm

Table 1A. Early Maturity Entries, 2005 Statewide UC Processing Tomato Variety Trial, Button and Turkovich Ranches, Winters.

	Company	Replicated (10)	
1	Harris Moran	HMX 2853	$VFFNP
2	Hazera	HA 3523	$VFFN, TMV, SW
3	Heinz	H 5003	$VFFNP
		H 9280	$VFFNP
		H 9997	Not in Yolo test
4	Lipton	U 250	$VFFNP
		U 446	$VFFNP
5	Orsetti	BOS 66508	$VFFNP
6	Seminis	**HyPeel 45**	$VFFNP
		APT 410	$VFFNP
		PS 740	$VFFNP

BOLD LETTERS = trial standards

Code: Disease Resistance and Hybrid Status*****

¢	=	OPEN POLLINATED
$	=	HYBRID
V	=	VERTICILLIUM WILT RESISTANT
F	=	RACE 1 FUSARIUM WILT RESISTANT
FF	=	RACE 1 AND 2 FUSARIUM WILT RESISTANT
FFF_3	=	RACE 1, 2 AND 3 FUSARIUM WILT RESISTANT
N	=	ROOT KNOT NEMATODE RESISTANT (SOME SPECIES)
P	=	BACTERIAL SPECK RESISTANT
D	=	DODDER TOLERANCE
TMV	=	TOBACCO MOSAIC VIRUS
SW		SPOTTED WILT VIRUS

*** Check with seed company to confirm disease resistance.**

Table 1B. Mid-Maturity Varieties, 2005 UC Processing Tomato Variety Trial, JH Meek and Sons.

Company	16 replicated		15 observational	
CTRI			CPL 4863-N	¢VFFN
DeRuiter	**AB 2**	$VFFP	DRI 9730	$VFFNP
Harris Moran	HMX 3859	$VFFNP	HMX 4798	$VFFF3NP
			HMX 4799	$VFFNP
			HMX 4801	$VFFNP Sw
			HMX 4802	$VFFF3NP
Heinz	H 2401	$VFFNP	H 8004	$VFFNP
	H 2601	$VFFNP	H 9780	$VFFNP
	H 5803	$VFFNP		
	H 8892	$VFFN		
	H 9665	$VFFNP		
Lipton	U 005	$VFFNP	U 519	$VFFNP
	U 232	$VFFNP	U 567	$VFFNP
Nippon Del Monte			NDM 3379	$VFFNP
Orsetti	**Halley 3155**	$VFF	BOS 67374	$VFFNP
Seminis	PS 345	$VFFNP	PS 607	$VFFN
Nunhems	Sun 6360	$VFFNP	Sun 6371	$VFFNP
	Sun 6366	$VFFNP	Sun 6374	$VFFNP
	Sun 6368	$VFFNP		
	Red Spring	$VFFNP		
United Genetics	UG 151	$VFFN		

BOLD LETTERS = trial standards

*** Check with seed company to confirm disease resistance.**

Table 2A. Plot Specifications, Early-Maturity, Winters, 2005

Cooperator:	Tony Turkovich and Martin Medina, Button & Turkovich Ranches, Winters
Location:	E of Winters. SW intersection of CR 29A x Interstate 505. NE 1/4 of SE 1/4, Section 13, T8N, R1W, MDM. SCS sheet #67.
Field Variety:	H 9491, double seed line on 5'-centered beds.
Plot Design:	Randomized complete block, 5 reps. All individual plots 500 square feet, 100' x 5'.
Planting Date:	Feb 9 into moisture.
Stand establishment:	~March 6
Field Meeting:	July 28
Fruit Quality Sample:	July 25, UCD Food Science Project July 25, PTAB
Harvest:	August 5
Soil type:	Rincon silty clay loam, Class 2, Storie Index 73.
Soil Sample	2 Feb 2005

O-1 foot depth	Rep 1-2	Rep 3-4
pH	6.8	6.8
EC	0.47	0.48
NO_3-N (ppm)	7	9
P (ppm)	9	6
K exchangeable (ppm)	213	222
Ca exchangeable (meq/100 g)	11	12
Mg exchangeable (meq/100 g)	9	10
Zn (DPTA) (ppm)	1.0	0.7

Fertilizer/Acre:	8 gpa 8-24-6 plus quart 6% zinc chelate at planting. ~150 lbs. N as UN 32 sidedressed at layby
Previous Crop:	2001-2004 alfalfa
Irrigation method:	furrow
General:	Rainy spring weather with slow emergence and light stand in spots. Bacterial speck incidence was an issue. Irrigation initiated later than normal due to late spring rainy conditions. Severe vine collapse occurred with some varieties.

Table 2B. Plot Specifications, Transplant, Mid-Maturity, Davis, 2005

Cooperator:	Steve Meek and John Pon, J.H. Meek and Sons, Woodland
Location:	1/2 mile north of CR 31, east of CR 96, NW of Davis. NW 1/4 of SW 1/4 section 2, T8N, R1E, MDM SCS map #68.
Field Variety:	PS 849
Plot Design:	Randomized complete block with 4 reps Non-replicated plots adjacent to 1st rep. All individual plots 500 square feet (100' x 5')
Greenhouse:	Westside Transplants, Firebaugh
Planting Date:	6 May
Field Meeting:	25 August
Fruit Quality Sample:	29 August, Food Science 2 Sept, PTAB
Harvest	2 September
Soil type:	Rincon silty clay loam, class 2, Storie Index 73
Fertilizer per Acre:	150 lbs 5-25-26 sidedress in fall 12 gallons 10-34-0 plus 1% zinc chelate under the 'seed' line 5 gallons 3-18-18 with transplant water ~130 lbs. N as 28-0-0-5S, sidedress at layby
Previous Crop:	cucumbers for seed production in 2004
Irrigation method:	furrow
General:	Transplants established and grew very well until early fruit sizing stage. Vines declined during fruit sizing resulting in high levels of sunburn and loss in yield. Verticillium wilt symptoms were very prevalent. Several varieties remained vigorous.

Table 3. Fruit Quality Factor Definitions

SOLUBLE SOLIDS OR °BRIX	A measure of mostly fruit sugars. Soluble solids are directly related to finished processed product yield of pastes and sauces. Soluble solids are estimated with a refractometer, and measured as °Brix.
PH	A measure of acidity. A level below 4.35 is desirable to prevent bacterial spoilage of finished product. pH rises as fruit matures.
COLOR	Measured with a Processing Tomato Advisory Board LED instrument simulating Agtron. Lower numbers correspond to better red fruit color.

FIELD SAMPLING PROCEDURE

Fruit quality determinations were obtained by collecting ~7 pound sample of ripe, non-defect fruit from each plot. A local grade station of the Processing Tomato Advisory Board evaluated our fruit samples for soluble solids (Brix), color and pH.

To determine finished product thickness, additional samples were collected by Sam Matoba and crew and evaluated in the Diane Barrett lab at the UC Davis Food Science and Technology Department as part of a California League of Food Processors-funded project. Two blocks of replicated varieties and all non-replicated plots were evaluated. °Brix, pH, titratable acidity (reported as percent citric acid), and juice Bostwick were the factors measured. The results of the Food Science project are in a separate report.

Fruit defects in the field were estimated by collecting ~5 gallons of unsorted fruit from the mechanical harvester. Fruit were separated into marketable red, pink, green, sun-damaged, mold and blossom end rot categories. Measurements were on a weight basis and reported as percent.

Table 4. Winters, Replicated, Early-Maturity: Yield, quality and cull-out from tomato variety evaluation, mechanical harvest, Button and Turkovich, Winters, 2005.

	Variety	Yield tons/A		Brix	color	pH	% pink	% green	% sun burn	% mold	% end rot	Lbs. per 50 fruit
1	H 5003	43.1	a	5.1	26.4	4.40	0	2	8	0	0.5	5.85
2	BOS 66508	40.2	ab	5.0	24.0	4.39	1	3	10	1	0.8	6.88
3	APT 410	39.5	ab	5.0	25.6	4.40	0	1	9	0	0.9	7.04
4	U 250	38.9	b	4.5	27.6	4.45	1	2	12	0	0.3	8.21
5	HyPeel 45	37.9	bc	5.2	26.0	4.33	1	1	12	0	1.5	7.43
6	PS 740	37.4	bc	5.3	24.4	4.32	1	2	7	0	1.5	6.93
7	HMX 2853	37.3	bc	4.9	27.2	4.48	0	1	15	0	0.7	7.41
8	H 9280	34.3	cd	4.7	28.0	4.39	1	3	16	1	0.0	7.19
9	HA 3523	32.6	d	4.7	25.0	4.54	1	2	20	1	0.5	7.14
10	U 446	22.6	e	4.8	25.6	4.50	0	1	44	1	3.8	7.50
	LSD 5%	4.0		0.37	2.2	0.06	NS	NS	6.5	NS	1.7	0.49
	% CV	8		6	6	1	157	59	34	157	129	5
	Average	36.4		4.9	26.0	4.4	0.6	1.9	15.2	0.5	1.0	7.2

Table 5. Winters, Replicated, Early-Maturity: Emergence, vine size, canopy and maturity (twin-row per bed), Button and Turkovich Ranches, 2005.

	Variety	% seedling emergence	% bed cover	% fruit canopy cover	estimated harvest days (to APT 410)
1	APT 410	21	89	88	0
2	HMX 2853	12	82	83	1
3	H 5003	12	91	87	2.2
4	H 9280	13	80	68	0.6
5	BOS 66508	20	85	85	1.2
6	U 250	16	84	87	1.4
7	U 446	11	75	34	0.8
8	HyPeel 45	13	90	84	2.6
9	PS 740	26	80	88	1.2
10	HA 3523	17	80	75	-0.2
	LSD (5%)	9.5	5.2	6.0	NS
	% CV	46	5	6	5
	Average	16	84	78	1

Table 6A. Davis, Replicated, Mid-Maturity: Yield, fruit quality and defects from processing tomato variety trial (transplant), JH Meek and Sons, Davis area, 2005.

Variety	Yield tons/A		Color	PTAB °Brix	pH	% Pink	% Green	% Sun	% Mold	% BER	lbs per 50 fruit
AB 2	46.4	a	23.5	5.4	4.40	2	0	6	3	0.1	8.95
PS 345	45.5	ab	24.5	5.2	4.47	1	2	11	1	1.6	8.83
Halley dbl*	45.3	ab	24.5	5.2	4.42	2	1	8	2	0.6	8.18
AB 2 dbl*	45.0	ab	24.0	5.3	4.39	1	1	7	2	0.4	8.23
U 232	44.8	ab	23.5	4.9	4.42	0	1	9	1	0.4	6.30
Sun 6368	44.2	abc	24.3	5.2	4.49	0	0	8	2	0.3	7.98
H 2401	44.1	abc	24.5	5.1	4.38	2	1	11	1	0.9	6.18
Sun 6366	43.8	abc	23.0	5.2	4.50	0	0	11	1	0.8	7.33
Halley	43.2	bc	23.8	5.3	4.35	1	2	8	2	0.6	8.50
H 8892	41.9	cd	23.5	5.1	4.42	1	1	6	3	0.1	6.83
UG 151	40.0	de	23.0	5.2	4.53	1	1	11	2	0.3	7.55
H 5803	39.6	de	22.5	5.7	4.47	1	1	19	2	1.3	8.53
Sun 6360	39.0	e	23.0	4.9	4.51	0	0	21	5	0.3	7.38
Red Spring	38.9	e	22.3	4.9	4.56	2	3	16	3	1.1	8.58
HMX 3859	38.9	e	24.5	5.3	4.52	1	2	9	2	0.7	6.68
H 9665	37.7	e	24.5	5.1	4.38	1	1	16	3	0.2	7.28
H 2601	34.8	f	23.5	5.2	4.42	1	1	15	0	0.6	7.45
U 005	32.9	f	24.5	5.2	4.44	2	2	23	1	0.5	7.85
LSD (5%)	2.7		1.3	0.3	0.07	NS	1.2	6.2	NS	0.9	0.72
% C.V.	5		4	4	1	96	69	37	93	101	7
Average	41.5		23.8	5.2	4.46	1.12	1.2	12.0	1.92	0.6	7.70

***** 2 plants per plug: double vs. single plants

Group comparisons											
Single	44.8	a	23.6	5.3	4.37	1.4	1.1	6.9	2.8	0.3	8.7
Double	45.2	a	24.3	5.3	4.40	1.3	1.2	7.2	1.9	0.5	8.2
F value	0.1		0.7	0.3	0.08	0	0	0	1	0.3	4.30
Probability	NS		NS	NS	NS	NS	NS	NS	NS	NS	0.04

F value is a statistical notation. Values in this comparison would need to be > 4.0 or so to be statistically significant at 95% confidence interval.

Table 6B. Davis, Replicated, Mid-Maturity: vine size, canopy cover and fruit maturity notes (transplant), JH Meek and Sons, Davis-area, 2005.

	Replicated Variety	% bed cover	% fruit canopy cover	estimated harvest days (to H 8892)
1	AB 2	94	85	2
2	H 2401	95	60	5
3	H 2601	91	64	1
4	H 5803	95	59	5
5	H 8892	90	84	0
6	H 9665	93	60	5
7	Halley	88	90	3
8	HMX 3859	89	76	1
9	PS 345	91	84	7
10	Red Spring	84	78	2
11	Sun 6360	88	59	-2
12	Sun 6366	90	73	1
13	Sun 6368	96	74	2
14	U 005	86	45	4
15	U 232	91	70	0
16	UG 151	89	70	3
17	Halley double	89	90	3
18	AB 2 double	95	89	1
	LSD (5%)	4.2	7.8	2.5
	% CV	3	8	6
	Average	91	73	2

Table 7A. Davis, Non-Replicated, Mid-Maturity: Yield, fruit quality and defects as transplants, JH Meek and Sons, Davis-area, 2005.

Variety	Yield tons/A	Color	PTAB °Brix	pH	% Pink	% Green	% Sun	% Mold	% BER	lbs per 50 fruit
BOS 67374	53.4	22	5.4	4.39	0	1	2	3	0.4	7.0
H 9780	49.1	26	5.3	4.37	4	2	5	3	1.6	8.3
U 567	48.3	24	4.5	4.53	0	0	14	6	0.4	8.8
NDM 3379	48.3	22	5.1	4.48	0	1	17	1	1.2	7.4
Sun 6374	47.3	22	5.9	4.45	0	2	8	0	0.0	7.5
H 8004	47.0	22	6.0	4.38	0	1	10	0	0.0	7.2
HMX 4802	45.9	23	5.2	4.52	1	2	6	2	0.0	7.9
DRI 9730	45.3	23	5.1	4.30	0	3	3	4	0.0	8.3
HMX 4798	44.6	23	5.3	4.23	0	5	3	2	3.1	5.9
HMX 4801	44.2	21	5.5	4.52	0	0	6	0	0.0	7.6
HMX 4799	43.8	22	5.3	4.50	1	1	5	3	0.9	8.1
Sun 6371	43.2	22	5.6	4.37	0	1	5	2	0.8	7.7
CPL 4863-N	43.2	22	5.2	4.42	0	1	9	0	0.8	5.9
U 519	39.9	23	5.0	4.55	0	0	11	3	0.0	8.6
PS 607	38.3	22	5.5	4.49	1	1	10	2	0.8	7.6
Average	45.5	22.6	5.3	4.43	1	1	8	2	0.7	7.6

*Data is **non-replicated** and should be viewed with much less confidence than replicated tests.*

Table 7B Davis, Non-Replicated, Mid-Maturity: vine size, canopy cover, and fruit maturity notes, transplants, JH Meek and Sons, Davis-area, 2005.

	Observational Variety	% bed cover	% fruit canopy cover	estimated harvest days (to H 8892)
1	BOS 67374	95	90	4
2	CPL 4863-N	95	80	-3
3	DRI 9730	100	90	4
4	H 8004	85	75	-3
5	H 9780	90	65	-1
6	HMX 4798	85	90	5
7	HMX 4799	90	85	-4
8	HMX 4801	80	70	-4
9	HMX 4802	85	85	1
10	NDM 3379	85	40	-2
11	PS 607	85	85	-1
12	Sun 6371	80	80	-2
13	U 519	75	60	-1
14	U 567	90	80	6
15	Sun 6374	90	70	6
	Average	87	76	0

*Data is **non-replicated** and should be viewed with much less confidence than replicated tests.*