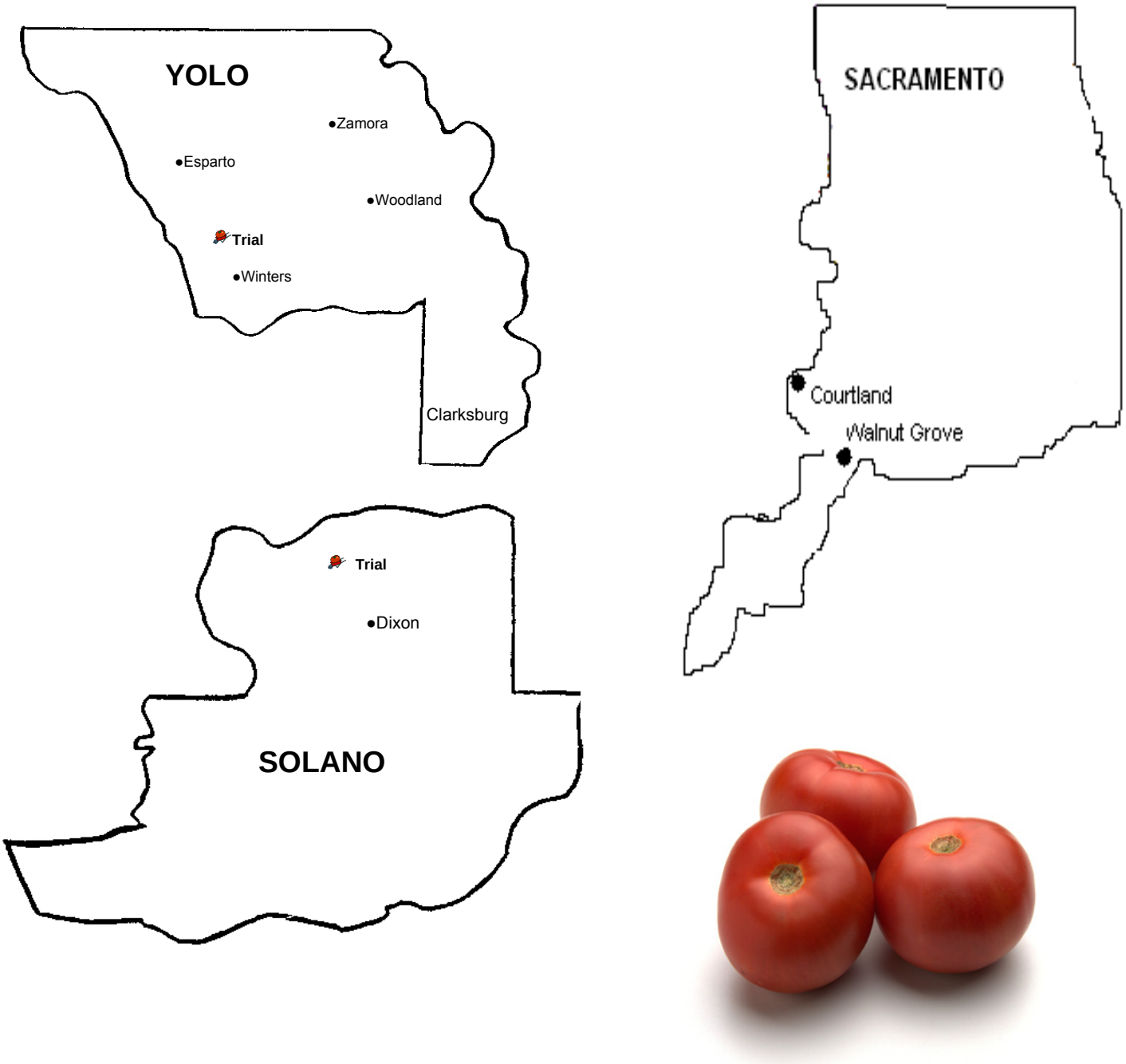
2008 Processing Tomato Variety Trials



University of California Cooperative Extension
70 Cottonwood Street
Woodland, CA 95695
(530) 666-8143

CONTRIBUTORS

GROWER COOPERATORS:
Special appreciation to our cooperating growers. Their generous donation of resources (management, land, labor and equipment) remains essential.

JOE ROMINGER, D.A. Rominger and Sons, Winters
STEVE MEEK AND JOHN PON, J.H. Meek and Sons, Woodland

FIELD ASSISTANCE:
MARK KOCHI, Field Research Assistant, Yolo County
MARGARET LLOYD, Summer Field Assistant, Student, UC Davis
SARA PEARSON, Summer Field Assistant, Student, Modesto Junior College

PROJECT COORDINATION:
UC ADVISORS SCOTT STODDARD (PROJECT LEADER), BRENNA AEGERTER, MICHELLE LE STRANGE, JAN MICKLER, MIKE MURRAY, TOM TURINI AND JOE NUNEZ
DIANE BARRETT & SAM MATOBA, Food Science and Technology Department, UCD
TIM HARTZ, Vegetable Crops Specialist, UCD

FRUIT QUALITY EVALUATIONS:
TOM RAMME, RICHARD MONTGOMERY AND CREW, Processing Tomato Advisory Board
DIANE BARRETT, SAM MATOBA AND CREW, Food Science and Technology Department, UCD

TRANSPLANT SUPPORT:
ANDY PON, WESTSIDE TRANSPLANTS, FIREBAUGH
CHRIS TIMOTHY, WESTSIDE TRANSPLANTS, WINTERS
TIMOTHY, STEWART AND LEKOS SEED COMPANY, WOODLAND.

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STATISTICAL ANALYSIS FOR STATEWIDE REPORT:
GAIL NISHIMOTO, Statistician
SCOTT STODDARD, PROJECT COORDINATOR FOR UC

BOOKLET COMPILATION:
KATIE CHURCHILL, Secretary, Yolo County

Respectfully submitted,

Gene Miyao
Farm Advisor, Yolo/Solano/Sacramento counties
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http://vric.ucdavis.edu/

Local report is also electronically available at UCCE Yolo web site**:**

http://ceyolo.ucdavis.edu/Vegetable_Crops/PROCESSING_TOMATO_VARIETY_TRIALS.htm

2008 Processing Tomato Variety Evaluation Trials
Yolo/Solano/Sacramento Counties

by

Gene Miyao, UC Farm Advisor, and Mark Kochi, Field Assistant, Yolo County

Statewide production of canning tomatoes in 2008 was over 11.8 million tons. While statewide acreage totals are arguable, average yields are likely record highs approaching 43 tons per acre.

Dry soil conditions in the Sacramento Valley may have contributed to reduced compaction and thus helped to achieve high yields. Higher yields were observed even for the late season harvests. Estimates are that 25 to 33% of the northern production area is currently irrigated by drip, a practice further enhancing yields, and gaining in popularity.

Weather conditions were fair. From Woodland weather station records, we had few 100° plus days: 3 in mid May, 2 in June, 5 in July, 7 in August, and 3 in September. Nearly all the high temperatures occurred in continuous streaks for that month. Rainfall was low during the season. No rainfall occurred in March and 0.05" accumulated in April and May combined. The harvest period was favorably dry until a 0.07" rain event on Oct 4th, but remained dry thereafter until the 31st.

We saw the most widespread, severe tomato powdery mildew ever in our area. Leaf desiccation especially in September was alarming. Fungicides commonly failed to achieve a high level of mildew control.

We also saw a substantial increase in the incidence of tomato spotted wilt virus in the area. While losses were generally limited in most fields, some fields had high rates of infection from this thrips-vectored virus.

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 similar 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 9 varieties (table 1A). Variety standards were Heinz 9280 and APT 410. All early varieties were evaluated in a replicated design. All varieties in the early trial had VFFNP resistance, except H 2006 with only VF, Gem 89 with VFF and HED 1058 with only FN resistance. APT 410 was also evaluated as 2 plants per plug compared to the traditional single plant.

In the mid-maturity trial, 13 replicated and 8 observational varieties were included (table 1B). Mid-maturity standards were AB 2, H 9780 and H 2601. All mid entries except AB 2 and NDM 5578 have nematode resistance; and only AB 8058, Nun 672 and UG 4305 were without bacterial speck resistance. AB 8058 and Nun 6385 are listed as resistant to spotted wilt.

Locations:

The local early trial was north of Winters with Don Rominger and Sons. The mid maturity trial was northwest of Dixon with J.H. Meek and Sons.

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

Methods:

Both the early and mid-maturity trials were established from commercially grown greenhouse transplants. 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.

Both trials were transplanted on twin lines, a foot apart from each other, centered on a 5' bed. All plots were 100' long. A short alley separated each replicate block.

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 site as fruit ripened to provide an opportunity to examine the performance of the varieties in side-by-side comparisons.

To measure yield, fruit from the entire plot were harvested into special weigh trailers using the grower's harvesting equipment and crew. A 5-gallon volumetric sample of unsorted fruit was collected from the mechanical harvester to evaluate fruit defects. Fruit was sampled along the length of the plot. These fruit were graded into categories of marketable red, pink, green, sun-damage, mold and blossom end rot and measured by weight.

From the marketable reds, an ~7 pound sample from each plot was bagged and delivered to a local inspection station of the Processing Tomato Advisory Board. 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 from the UC Davis Food Science and Technology Department to evaluate processing quality.

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 (TRANSPLANTED)

Early-maturity varieties were evaluated with Joe Rominger in a Don Rominger and Sons field north of Winters. We transplanted on March 18 into twin seed lines per bed in a class 1, Yolo silt loam soil with good soil conditions (Table 2A). Vines grew well during the season. Irrigation was frequent in alternating, every-other furrow sequence and maintained close to harvest. Fruit set was fair. Harvest was timely on July 18.

Table 4 early replicated—yield, fruit quality and culls: The highest yielding group was led by BOS 66509 with 50.3 tons per acre, although statistically grouped with 3 other varieties including Sun 6366, APT 410 and AB 4606. H 9280 was one of the lowest yielding with 34.7 tons. These same varieties also ranked highest and lowest in the 2007 test.

H 2206 had the highest Brix level with 5.5, but included AB 4606, Sun 6366 and CXD 274 in the high solids group. Gem 89 had the best color at 24, but included 3 others as well. Fruit pH was lowest with AB 4606 with 4.41, but included 2 others in the same statistical grouping.

The level of below-colored fruit was highest for AB 4606 at 13% combined green and pink fruit. Sunburn damage was variable and without statistical significance. Mold was highest with HED 1058 and H 9280, both at 4%. H 2206 had the smallest fruit while AB 4606 had large fruit (as measured by weight of a 50-count batch of fruit).

Double plants per plug of APT 410 had similar yield to the single plant configuration (45.3 vs 47.0 tons, respectively).

Table 5 early replicated— stand, vine size, canopy cover and estimated maturity: Plant population on the double row planting was about 9,600 plugs per acre. Transplant stands were comparable to each other amongst the varieties.

Vine size was difficult to judge with the twin row planting. Overall vine size was moderate. The smaller-vined varieties in this test were H 9280, H 2206 and Gem 89 at or below 78% of the row width.

Canopy cover for fruit protection from sun damage ranged from 55 to 88%. Fruit canopy cover was fair overall, but weak with H 2006, HED 1058 and H 9280.

Visual rating of 'days-to-estimated-harvest' date was made relative to APT 410. The differences appeared to range from -9 to 5 days later on average. The earliest variety in the test was H 2206, estimated to be 9 days earlier than APT 410. The latest maturing variety was CXD 274, almost 5 days behind APT 410.

MID-MATURITY EVALUATION: DIXON (TRANSPLANTED)

Our local mid-maturity variety trial evaluation was transplanted with J.H. Meek and Sons northwest of Dixon on a class 1, Yolo silty clay loam soil. Seedling plugs were mechanically transplanted on April 7th in double lines per bed (Table 2B). Seedbed condition was very good. The field was only furrow irrigated. Vine growth was robust and required vine training. Verticillium wilt was prevalent

while powdery mildew incidence was moderately low. Ripening was slower than calendar-days projection schedule. Harvest on August 20 was optimal for fruit conditions.

REPLICATED ENTRIES (DIXON)

Table 6A mid replicated— yield, fruit quality and culls: Five of the varieties were in the top yield category led by AB 8058 with 65.5 tons per acre. The lowest yielding varieties were H 2601, NDM 5578 and PX 1723, all with at least 52 tons per acre. Overall yields were high.

Brix level was moderate. The high Brix group was led by AB 2 with 5.5, but included 5 other varieties.

NDM 5578 had the best color with 23.3, but included 6 others.

Fruit pH was lowest with HM 6898 at 4.44, but included 5 others in the statistically similar group. Fruit pH tended to be elevated with several varieties above 4.50.

Culls levels were low to moderate. Differences were statistically significant for all categories from pink, green, sunburn and mold, but not blossom end rot (of which there were few). PX 1723 tended to be one of the largest fruited varieties, although many other varieties were within a similar size category.

As double plants per plug, none of the individual varieties tested were statistically significantly different when compared to their single plant counterpart. When compared as a group, doubles were significantly superior to singles with an average yield gain of almost 3 tons per acre, even though fruit size was smaller.

Table 6B mid replicated— vine size, canopy cover and estimated maturity: The larger-vine varieties which spanned the full row width were AB 2, AB 8058 and UG 4305. H 2005 and Nun 672 were also in the large vine group. The moderate sized vine types included H 4007 and NDM 5578 were among the smallest-vine varieties at 84% row-width. Overall vine size was large in the trial. Vines were larger when planted as double plants per plug (as a general group).

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. Canopy was poorest with H 4007 at 64% and included in this group, H 8004, HM 6898, H 2601 and NDM 5578. Canopy cover was 85% or better with PX 1723, Nun 672 and AB 2.

A visual estimate of days to harvest was assessed and compared to the standard AB 2. H 4007, NDM 5578 and UG 4305 appeared to be the earlier maturing varieties, respectively 7, 6 and 4 days earlier than AB 2. The latest varieties in our test appeared to be H 9780 and H 2005, 4 days later maturing than AB 2. HM 6898 was also in the later statistical grouping, at 2 days later.

NON-REPLICATED ENTRIES (DIXON)

Table 7A: mid observational—Dixon: The highest yielding non-replicated variety was CXD 255 with 67.5 tons per acre with large fruit. DRI 0303 (AB 3) had the highest Brix at 5.3° and amongst the best color at 24. Acid levels as measured by pH was generally high, but lowest with H 8504 at 4.37.

Culls were generally low except mold level was high with CXD 269 at 11%. BOS 1411 had very large fruit.

Table 7B mid observational— vine size, canopy, and estimated maturity: All vines covered 90% or more of the row width, except for HMX 7885 at 80%. Canopy cover was good overall except for Nun 6390 and HMX 7885 with 60 and 65%, respectively. Maturities ranged from within -4 days to +4 days of AB 2.

UC STATEWIDE VARIETY REPORT: Statewide compiled variety report with other UC advisor tests is posted at UC Vegetable Research and Information Center at:

http://vric.ucdavis.edu/

Table 1A. Early Maturity Entries, 2008 Statewide UC Processing Tomato Variety Trial, D.A. Rominger and Sons, Winters.

	Company	Replicated (9)	
1	Campbell	CXD 274	$VFFNP
2	DeRuiter	AB 4606	$VFFNP
3	HED Seeds	HED 1058	$FN
4	Heinz	H 2206	$VF
		H 9280	$VFFNP
5	Nunhems	SUN 6366	$VFFNP
6	Ochoa Seed	Gem 89	$VFF
7	Orsetti Seeds	BOS 66509	$VFFNP
8	Seminis	**APT 410**	$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 (RACE 0)
D	=	DODDER TOLERANCE
TMV	=	TOBACCO MOSAIC VIRUS
Lv	=	POWDERY MILDEW
SW		SPOTTED WILT VIRUS

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

Table 1B. Mid-Maturity Varieties, 2008 UC Processing Tomato Variety Trial, JH Meek and Sons.

	Company	13 replicated		8 observational	
1	Campbell Soup			CXD 255	$VFFNP
				CXD 269	$VFFNP
2	DeRuiter	**AB 2**	$VFFP	AB 3 (DRI 0303)	$VFFNP
		AB 8058	$VFFN SW		
3	Harris Moran	HMX 6898	$VFFNP	HMX 7885	$VFFNP
4	Heinz	H 4007	$VFFNP	H 8504	$VFFNP
		H 2005	$VFFNP		
		H 2601	$VFFNP		
		H 8004	$VFFNP		
		H 9780	$VFFNP		
5	Nippon Del Monte	NDM 5578	$VFFP		
6	Nunhems	Nun 672	$VFFN	Nun 6385	$VFFNP SW
		Sun 6368	$VFFNP	Nun 6390	$VFFNP
7	Orsetti			BOS 1411	$VFFNP
8	Seminis	PX 1723	$VFFNP		
9	United Genetics	UG 4305	$VFFN		

BOLD LETTERS = trial standards

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

Table 2A. Plot Specifications, Early-Maturity, Winters, 2008

Cooperator:	Joe Rominger, D.A. Rominger and Sons, Winters
Location:	NW of Winters. ~ ½ mile west of CR 89 & ½ mile north of CR 31. NW 1/4 of SE 1/4, Section 4, T8N, R1W, MDM. SCS sheet #66.
Field Variety:	APT 410, double lines on 5'-centered beds.
Plot Design:	Randomized complete block, 4 reps. Individual plots were 500 square feet, 100' x 5'.
Greenhouse:	Westside Transplants, Firebaugh with #338 trays
Planting Date:	18 March as transplants, #338 tray from Westside Transplants
Population:	~9400 plugs per acre
Fertilizers:	100 lbs. 11-52-0 sidedressed in fall 10 gallons 8-24-5 plus zinc chelate pre-plant 50 gallons 28-0-0 (5% S) sidedress at layby 10 gallons UN 32 & 10 gallons CAN 17 as water run
Field Meeting:	14 July
Fruit Quality Sample:	15 July, UCD Food Science Project 18 July, PTAB
1st Ripe Fruit	~15 June (early fruit ripening stage)
Harvest:	18 July (122 days after planting)
Soil type:	Yolo silt loam, Class 1, Storie Index 100. 32% sand, 37% silt, 31% clay in top foot
Soil Sample	18 March

O-1 foot depth

pH	6.4
EC (dS/m)	0.6
P (ppm)	20
K exchangeable (ppm)	208
Na exchangeable (meq/100 g)	0.14
Ca exchangeable (meq/100 g)	12
Mg exchangeable (meq/100 g)	8

Previous Crop:	2006 & 2007 tomatoes
Irrigation method:	furrow
General:	Good planting conditions. Slow vine growth from the early to mid growth stages. Frequent, every-other-row irrigation. High tonnage, especially for slow early growth with early maturity varieties.

Table 2B. Plot Specifications, Transplant, Mid-Maturity, Dixon, 2008

Cooperator:	Steve Meek and John Pon, J.H. Meek and Sons, Woodland
Location:	~5 miles northwest of Dixon, ~2 mile west of Stevenson Bridge Road, ~1.25 mile south of Putah Creek Road near Campbell Road at northern connection to Putah Creek Road. MDM SCS map #2.
Field Variety:	AB 2, double lines on 5'-centered beds.
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/Winters in #338 trays for replicated and #392 trays for observational entries
Planting Date:	7 April as transplants
Population:	~8700 plugs per acre.
Fertilizers:	100 lbs. 8-25-26 sidedress in fall 140 lbs N as 28-0-0 (5 Sulfur) as sidedress 10 lbs. N as CAN 17 mid season
Field Meeting:	14 August
Fruit Quality Sample:	11 August, Food Science; 20 August, PTAB
First Ripe Fruit:	~13 August (early ripening fruit stage)
Harvest	20 August (135 days after transplanting)
Soil type:	Yolo silty clay loam, class 1, Storie Index 90 16% sand, 52% silt, 32% clay in top foot.
Soil Sample	7 April O-1 foot depth

pH	7.3
EC (dS/m)	0.9
C (%)	1.3
P (ppm)	30
K exchangeable (ppm)	308
Na exchangeable (meq/100 g)	0.20
Ca exchangeable (meq/100 g)	12
Mg exchangeable (meq/100 g)	12

Previous Crop:	2007 wheat
Irrigation method:	furrow
General:	Transplants established and grew well. Verticillium wilt prevalent with scattered low level of spotted wilt and moderately low level of powdery mildew. Very high tonnage. Harvest was well timed for the trial.

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, D.A. Rominger & Sons, 2008.

	Variety	Yield tons/A		Brix	PTAB color	pH	% pink	% green	% sun burn	% mold	% BER	lbs./ 50 fruit
1	BOS 66509	50.3	a	4.9	26	4.49	3	2	3	1	0	7.0
2	SUN 6366	47.1	ab	5.2	27	4.46	1	2	4	1	1	7.1
3	APT 410	47.0	abc	4.8	26	4.49	3	1	6	1	1	6.8
4	APT 410=Dbls	45.3	abcd	5.0	24	4.45	1	2	4	1	2	6.4
5	AB 4606	43.8	abcd	5.4	27	4.41	9	4	1	1	1	8.1
6	Gem 89	43.0	bcd	5.0	24	4.51	1	1	6	0	0	6.8
7	CXD 274	40.5	cde	5.2	25	4.49	5	3	7	1	2	6.3
8	HED 1058	40.0	de	4.4	26	4.45	0	1	11	4	1	6.2
9	H 2206	35.5	e	5.5	25	4.51	0	1	4	1	1	4.5
10	H 9280	34.7	e	4.5	25	4.50	2	1	7	4	0	7.0
	LSD 0.05	6.5		0.32	1.5	0.05	3.0	1.3	NS	1.1	NS	0.7
	CV	11		4	4	1	89	53	83	54	139	7
	Average	42.7		5.0	25.2	4.48	2.5	1.7	5.3	1.5	0.8	6.6

Major Points:

- 4 varieties in the top yielding group led by BOS 66509 (Bos 66509 top yielding in 2007 test)
- H 2206 in the top Brix group along with AB 4066, Sun 6366 and CXD 274
- Double plants per plug no yield advantage over singles with APT 410 in this test

Table 5. Winters, Replicated, Early-Maturity: Stand, vine size, canopy and maturity (twin-row per bed), D.A. Rominger and Sons, 2008.

	Replicated Variety	plants per 100 feet	% bed cover	% fruit canopy cover	estimated harvest days (to APT 410)
1	AB 4606	109	85	83	2.5
2	APT 410	110	90	83	0.0
3	BOS 66509	109	90	88	2.0
4	CXD 274	110	83	73	4.8
5	Gem 89	108	78	85	2.5
6	H 2206	108	73	55	-9.0
7	H 9280	109	70	63	-1.5
8	HED 1058	109	88	55	-3.8
9	SUN 6366	110	90	78	1.8
11	APT 410=Dbls	110	90	85	0.8
	LSD .05	NS	7	9	2.1
	% CV	1	6	9	6

Major Points:

- Vine size best with H 9280 and H 2206 at about 70%
- Fruit canopy cover sparse with HED 158, H 2206 and H 9280
- Maturity was clearly the earliest with H 2206, 9 days earlier than APT 410 in this test.

Table 6A. Dixon, Replicated, Mid-Maturity: Yield, fruit quality and defects from processing tomato variety trial (transplant), JH Meek and Sons, 2008

	Replicated Variety	Yield tons/A		Brix	PTAB color	pH	% pink	% green	% sun burn	% mold	% BER	lbs per 50 fruit
1	H 9780 double	67.0	a	5.00	25.5	4.45	1	2	2	1	0	7.08
2	AB 8058	65.5	ab	4.73	24.5	4.51	1	1	8	2	0	7.55
3	AB 2 double	65.5	ab	5.53	27.0	4.44	4	3	5	3	0	5.19
4	SUN 6368	64.6	ab	4.95	25.8	4.45	1	1	2	2	0	6.35
5	**H 9780**	64.2	ab	4.95	26.5	4.45	2	3	5	1	0	7.53
6	UG 4305	64.0	ab	5.03	24.8	4.52	0	1	3	6	0	6.45
7	**AB 2**	63.6	abc	5.50	26.8	4.46	3	1	3	4	0	7.56
8	H 2005	61.8	bcd	5.23	25.5	4.51	1	1	3	2	1	6.20
9	NUN 672	59.7	cde	4.78	23.8	4.56	2	5	3	5	0	6.09
10	H 8004	58.7	de	5.20	26.0	4.55	1	1	5	3	0	7.43
11	H 4007	58.5	de	4.75	23.8	4.64	0	1	5	2	0	5.96
12	HM 6898	57.4	ef	5.30	26.3	4.44	2	1	5	0	0	7.53
13	H 2601 double	56.2	efg	5.13	25.3	4.57	0	2	7	1	0	6.75
14	PX 1723	55.5	efg	5.30	24.8	4.53	1	1	2	2	1	8.53
15	NDM 5578	53.4	fg	5.05	23.3	4.53	1	1	5	1	0	7.94
16	**H 2601**	52.2	g	5.23	24.8	4.59	1	1	5	1	0	6.76
	LSD 5%	4.3		0.28	1.6	0.07	1.62	1.6	3.5	2.1	NS	1.4
	% CV	5		4	5	1	92.3	70	58	66	245	14
Group comparisons:												
	singles vs.	60.0		5.23	26.0	4.50	1.7	1.7	4.3	1.9	0.1	7.28
	dbl plants/plug	62.9		5.22	25.9	4.48	1.7	2.5	4.5	1.8	0.1	6.34
	F value	5.7		0.0	0.0	0.5	0.0	2.7	0.1	0.0	0.0	5.4
	Probability	0.02		NS	NS	NS	NS	0.11	NS	NS	NS	0.02

Main Points

- AB 8058 in the top yielding group along with Sun 6368, H 9780, UG 4305 and AB 2.
- AB 2 in the top Brix level along with PX 1723, HM 6898, H 2601 and H 2005
- Double plants per plug, as a group, outyielded singles by almost 3 tons per acre and had smaller fruit.

Table 6B. Dixon, Replicated, Mid-Maturity: stand, vine size, canopy cover and fruit maturity notes (transplant), JH Meek and Sons, 2008.

	Replicated Variety	Stand (plugs per 100')	vine size (% cover)	% fruit canopy cover	estimated harvest days (to AB 2)
1	**AB 2**	100	100	85	0
2	AB 8058	100	100	79	-2
3	H 2005	99	95	76	4
4	**H 2601**	100	89	70	-1
5	H 4007	100	84	64	-7
6	H 8004	101	89	66	1
7	**H 9780**	100	94	79	4
8	HM 6898	100	89	66	2
9	NDM 5578	100	84	74	-6
10	NUN 672	99	95	93	0
11	PX 1723	101	86	94	1
12	SUN 6368	100	94	81	-2
13	UG 4305	100	100	78	-4
14	AB 2 double	100	100	90	3
15	H 2601 double	99	96	74	-1
16	H 9780 double	100	100	80	5
	LSD 5%	NS	5.0	10.1	2.9
	% CV	1	4	9	10
	average	100	93	78	0
	Group comparisons:				
	singles vs.	100	94	78	1
	dbl plants/plug	100	99	81	2
	F value	0.3	10.4	1.3	2.0
	significance	NS	0.00	0.26	0.17

Percent of off-target plants from singles and doubles per plug

variety	% singles	% doubles
AB 2	3	1
H 2601	6	1
H 9780	6	3
average	5	2

Example: AB 2 as singles had 3% doubles and AB 2 as doubles had 1% singles

Table 7A. Dixon, Non-Replicated, Mid-Maturity: Yield, fruit quality and defects, JH Meek and Sons, 2008.

	Non-Replicated variety	Yield tons/A	°Brix	PTAB color	pH	% pink	% green	% sun burn	% mold	% BER	lbs per 50 fruit
1	CXD 255	67.5	4.8	24	4.44	1	1	3	1	0.0	8.20
2	NUN 6385	64.4	4.5	29	4.60	1	1	7	0	0.0	7.55
3	BOS 1411	63.3	5.1	29	4.52	1	4	2	4	0.0	9.05
4	NUN 6390	62.7	5.2	28	4.58	1	1	7	1	0.0	6.65
5	H 8504	62.2	4.7	26	4.37	1	1	2	0	0.0	6.45
6	DRI 0303	60.9	5.3	24	4.42	1	1	2	4	0.0	8.65
7	HMX 7885	52.6	4.8	24	4.66	0	2	3	2	0.0	7.95
8	CXD 269	46.1	4.9	25	4.62	3	0	6	11	0.0	7.30
	average	60.0	4.9	26.1	4.53	1.1	1.4	4.12	2.9	0.0	7.73

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

Table 7B Dixon, Non-Replicated, Mid-Maturity: Stand, vine size, canopy cover, and fruit maturity notes, transplants, JH Meek and Sons, 2008.

	variety	Stand (plugs per 100')	vine size (% cover)	% fruit canopy cover	estimated harvest days (to AB 2)
1	DRI 0303	103	100	85	1
2	HMX 7885	99	80	65	-4
3	BOS 1411	99	100	90	2
4	H 8504	100	100	70	4
5	CXD 255	98	100	90	4
6	NUN 6385	100	90	85	-3
7	NUN 6390	100	100	60	4
8	CXD 269	101	95	90	-2
	average	100	96	79	1

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