

Specialty Tomato Variety Trials, 1999 & 2000

Final Report

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<i>Table of Contents</i>	<i>Page No.</i>
1. Introduction & Materials and Methods	pg. 2-3
2. Results & Conclusions	pg. 3-4
3. Table 1, Poamoho 1999, Early yields (descending order)	pg 5-6
4. Table 2, Poamoho 1999, Early yields (alphabetical order)	pg. 7-8
5. Table 3, Poamoho 1999, Growth & disease evaluations	pg. 9-11
6. Table 4, Poamoho 1999, Total Grade A yields (descending order)	pg. 12-13
7. Table 5, Poamoho 1999, Total Grade A yields (alphabetical order)	pg. 14-15.
8. Tables 6 & 7, Poamoho 1999, Skin firmness & sugar levels	pg. 16-19
9. Tables 8 & 9, Waimanalo & Poamoho 2000, Early yields	pg. 20-21
10. Table 10, Early yields 2000, pooled for both locations	pg. 22
11. Tables 11 & 12, Waimanalo & Poamoho 2000, Total yields	pg. 23-24
12. Table 13, Total yields 2000, pooled for both locations	pg. 25
13. Table 14, Overall cultivar ranking for 2000 (both locations)	pg. 26
14. Tables 15 & 16, Growth & disease evaluations/notes for 2000	pg. 27-28
15. Tables 17 & 18, Skin firmness and sugar levels, 2000	pg. 29-30
16. Figure 1. Weekly yield data, Waimanalo & Poamoho 2000	pg. 31
17. Variety Descriptions and Seed Sources	pg. 32-35
18. Seed Company contact information	pg. 36-37

Industry collaborators:

Seed companies (listed in pg. 36-37);
Irrigation and mulching supplies: Wisdom Industries;
Fertilizers and pesticides: Ed Sawa @ Pacific Agr. Sales
Soil Analysis and disease I.D.: ADCS (Ray Uchida, 808-956-6706)
Bone meal, Gordon Lum, Island Commodities

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Introduction

Demonstrations were conducted on 1991 and 2000 to evaluate the growth and productivity of specialty tomato varieties in Oahu. Sixty-two varieties were evaluated in 1999 at the UH Poamoho Station. In 2000, 17 varieties were evaluated both at Poamoho and at the UH Waimanalo Experiment station. The varieties included cherry, Roma, colored, and some round varieties. The goal of this research was to identify specialty tomato varieties that may be able to fill potential specialty marketing niches in Hawaii. Roma or plum tomatoes are oval, elongated, cylindrical shaped fruit. Saladette types are by definition plum to globe shaped, but in the marketplace saladettes normally refer to any type of Roma tomato grown for the fresh market.

Materials and Methods

Poamoho 1999. Sixty two specialty (Romas, paste, colored, cherry, and some round-types) varieties were evaluated. Each variety was grown on a 20 ft plot, with 5 plants per plot. Seed was sown in the greenhouse on 9 March and transplanted on 29 April. The first harvest took place on June 16. Data presented is for 'early' (the first 5 weeks of harvest) and total (8 weeks of harvests) yields. The station is at 870 ft elevation. It receives an average 45 inches median annual rainfall. The farm has a red soil which has a mineralogical composition of kaolinitic clay and oxides (of iron and manganese) and an organic matter content of approx. 2%. The soil is classified as a Wahiawa silt clay (Tropeptic Eustrustox); Soil fertility of the tomato plots prior to planting was: Terrace 1 (highest elevation and highest pH), pH= 7.4, P= 348, K= 766, Ca= 4284 and Mg= 470 ppm. Terrace 2, pH= 6.0, P= 771, K= 436, Ca= 1402, and Mg= 340. Terrace 3 (lowest elevation and lowest pH), pH= 5.3, P= 349, K= 524, Ca= 634, and Mg= 222; Section in Terrace 3 with plant damage (closest to highway), pH= 4.9, P= 293, K= 356, Ca= 514, and Mg= 192.

Poamoho and Waimanalo 2000. Seventeen varieties, including some of the promising Roma varieties from the previous year were selected for evaluation in the year 2000. The same varieties were grown at both Poamoho (800 ft) and Waimanalo (60 ft elevation) locations. The mean annual temperature in Waimanalo is 75 F (24.6C), with a monthly range of 70-80F (22-27C). Mean annual rainfall in Waimanalo is 55 in (1380 mm) with an annual range of 17-70 in (500-1800 mm). The soils in Waimanalo are Vertic Haplustolls, derived from lava and coral, with a pH of about 6.5, a good base status, and generally low organic matter. Soil analysis from the Waimanalo plots show high or very high P & K, and thus only N applications are recommended. For both experiments seeds were sown on 72-cell Speedling trays on 5 January. The seedlings were transplanted in Poamoho on 1 March, and in Waimanalo on 15 March. At both sites 20 lbs of bone meal and 50 lbs of aged chicken manure were applied per 100 ft of row, one week prior to transplanting. Plot size and spacing was the same as for the 1999 trials. A modified trellis system was used on both determinate and indeterminate varieties, to minimize foliage and fruit contact with the soil. Because of the warmer weather in Waimanalo, growth of these seedlings quickly caught up with the Poamoho seedlings and both plots were first harvested in early May. The plants were harvested weekly for 7 months. The plants were grown under drip irrigation and watered as needed. Standard protocols were used for pest management. Calcium nitrate or 16-16-16 applications were begun after the second harvest for both experiments to provide 40 lbs N/Acre per month.

Soil Fertility in Poamoho prior to any amendments, 2000: pH= 7.4, P= 343 ppm, K=1156, Ca= 4854, and Mg= 542 ppm. Typical soil fertility in Waimanalo tomato plots has been OM= 1.12%, pH= 5.6, P= 52, K= 480, Ca= 2600, and Mg= 800 ppm.

Results

Poamoho 1999.

Varieties with the greatest 'early' yields of Grade A fruit after 5 weeks of harvest (Table 1) included Bonsai (a cherry-type), Tuscany (Roma), BOS 8147 (Roma), Tropimech (medium), Daiquiri (Roma) and Ensalada (Roma). The varieties with the greatest 'total' yields after 8 weeks of harvests (listed on **Table 4, pg. 11**). Included **Roma VF** (Willite), **Cherry Time**, **Toro** (Roma), **Stallion** (Roma), **Tuscany** (Roma), **Bonsai** (cherry), and **Tirano** (Roma). Other varieties that produced an average of over 35 lbs of Grade A fruit per plant included Italian Gold, Burpee Bunch, Daiquiri, Plum Dandy, Roma (Technisen), Dania, Ruby, and Capita (see Variety descriptions on **page 32**) Growth evaluations for the 1999 trials are found on Table 3 (**page 8**). 9) firSkiness and soluble solid (brix) evaluations for these varieties are found on Tables 6&7 (pgs. 16-19).

Waimanalo 2000 (low-elevation site).

Varieties with the greatest 'early' yields of Grade A fruit after 14 weeks of harvest (Table 8) included No. 870 (medium round) FA-574 (medium round), and Ovata (Roma). Total yields after 29 weekly harvests were also greatest for the same three varieties (Table 11).

Poamoho 2000 (high-elevation site).

Varieties with the greatest 'early' yields after 14 weeks of harvest (Table 9) included No. 870, Ovata, and Roma VF (Willhite). Total yields in Poamoho after 31 weekly harvests were greatest for No. 870, Ovata, Marina, Roma VF, and FA-574 (Table 12).

Overall for 2000 (Waimanalo and Poamoho data pooled).

When data from both Poamoho and Waimanalo sites was pooled (Table 13), the varieties with the greatest 'early' yields after 14 weekly harvests were No. 870 and Ovata (Table 10). Greatest total yields after the 31 harvests was greatest for No. 870, Ovata, and for FA-574. Other varieties that produced over 100 lbs/plant of Grade A fruit included Ensalada, Veronica, Roma, Supra, RX200196, Marina, BOS8033, HA3307, and Daiquiri. Thus, in terms of yields of Grade A fruit, the top ranking varieties for the trials in both sites were **No. 870, Ovata, FA-574, RX200196, Supra, and Ensalada** (Table 14). Growth evaluation determinations taken throughout the experimental period at both locations, including plant vigor, disease index, and overall appearance are provided on Table 15. Additional field notes taken for individual varieties, including incidence of pest and diseases, are also provided on Table 16. Data on skin firmness taken at harvest, and again 1 week later, is shown on Table 17. This data may provide an indication of the potential for shipping, and shelf-life for each variety. Table 18 lists the fruit weight and size as well as the Brix content (percent soluble solids, an estimate of sugar levels) of the varieties at harvest and one week later. This information will be helpful to narrow down the selection of varieties that fit the needs of particular market niches. Thus growers may use the yield data across locations, the fruit quality evaluations, and the individual variety descriptions to chose a few varieties for evaluation on their particlar farms.

Additional Remarks on Variety Selection. Yield data, is only one variable used in the selection of a variety. The yield data gives some insight on general adaptability of the variety, and on how well it yields despite the pressure from local pests and diseases. However, growers that target specialty markets are normally more interested on other specific cultivar traits such as quality, appearance, and postharvest shelf-life. As part of these trials we evaluated many specialty varieties with many positive attributes (such as color and taste) that were not among the top yielders. These included several varieties from Cook's Garden. Growers interested in specific market niches (say for colored varieties, or for grape tomatoes) should thus consider all the varieties evaluated in that group, and chose 4 or 5 (the more the better) for further evaluation on their farms. To minimize the risk of serious losses it is recommended that growers evaluate new varieties first on a small-scale, to learn about local adaptability, before expanding the acreage considerably. Disease resistance will be a key consideration in most locations. To determine the general pest tolerance observed in our trials see Tables 3, 15, and 16. Additional information on pest tolerance/resistance is provided in the Section on: "Variety Descriptions" (page 32. Important traits in Hawaii include resistance to Tobacco Mosaic Virus (TMV), and to Nematodes. Other diseases may be of importance in your location. Bacterial Wilt is more critical in other islands of the Pacific, than it is in Hawaii. AVRDC (pg. 37) in Taiwan, has released several BW resistant varieties, and UH also has some 'heirloom' BW and nematode resistant varieties.

Overall Conclusions (For Trial varieties for Hawaii)

Best Romas: Ovata* (tasty and consistent yields, however it had nipples at blossom-end), Supra*, Toro, Stallion, Tuscany* (large size), Marina, Ensalada**, Veronica*, Daiquiri. (see cultivar descriptions, pg. 32).

Best Cherrys (1999): Cherry time*, Bonsai, Ruby*, Precious*.

Best Round med/large: FA-870 (high yielder), FA-574*, RX200196 (resistant to a strain of Spotted Wilt Virus).

Cluster: FA-870 (high yielder), Burpee Bunch, Capita.

Colored specialties (1999): Vitta Gold* (Yellow), Italian Gold* (golden Roma), Goldy (Yellow grape), Green Zebra, Sweet Tangerine.

* High solids (pgs. 18, 30)

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EARLY YIELDS, CULTIVAR GROUPED FROM HIGHEST GRADE A TO LOWEST GRADE A YIELDS

Table 1. Mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of Tomato Cultivars Grown at the UH Poamoho Experiment Station, Summer 1999 (5-6 weeks of harvest).

Cultivar	Grade A (lb/Acre)	Grade A (lb/plant)	Duncans	Total wt. (lb/Acre)	Total wt. (lb/plant)	Duncans	Grade A (Percent)	Duncans	Location (East to West)	Fruit
Bonsai	61989.2	34.2	BAC	68620.7	37.9	B	84.0	EBDAGCF	row 1	cherry
Tuscany	55994.2	30.9	A	78246.3	43.2	B	75.2	EBIDHAGCF	row 2	roma
BOS8147	49966.9	27.6	BAC	72363.8	40.0	B	56.3	KEJIDHMGCF	row 3&9	roma
TropiMech	49608.5	27.4	BAC	83578.6	46.2	B	44.8	KJNIPHMOL	row 6&9	medium
Daiquiri	46843.5	25.9	BAC	57796.9	31.9	B	74.6	EBIDHAGCF	row 7	roma
Ensalada	46531.5	25.7	BA	59024.1	32.6	B	76.5	EBIDHAGCF	row 3	roma
Romavf	43674.6	24.1	BAC	48131.5	26.6	B	83.7	EBDAGCF	row 7	roma
tina	43127.2	23.8	BAC	68678.6	37.9	B	51.9	KEJNIDHMGFL	row 6&9	roma
Tirano	41760.3	23.1	BAC	72363.8	40.0	B	64.9	KEJBIDHAGCF	row 2	roma
EG-104	41676.3	23.0	BAC	53040.2	29.3	B	54.2	KEJNIDHMGFL	row 7	roma
Casa del Sol	41268.0	22.8	BAC	50299.9	27.8	B	62.0	KEJBIDHAGCF	row 7	roma
Tough boy	40197.2	22.2	BAC	56863.0	31.4	B	45.1	KJNIPHMOL	row 5	roma
capita	40148.7	22.2	BAC	51085.4	28.2	B	51.9	KEJNIDHMGFL	row 7	medi-mall
bingo	39639.0	21.9	BAC	72381.9	40.0	B	38.6	KJNIPMOL	row 2	medi-arge
cherry time	39100.3	21.6	BAC	43070.8	23.8	B	88.9	EBDAC	row 2	cherry
dania	38904.1	21.5	BAC	48127.9	26.6	B	82.9	EBDHAGCF	row 4	roma
V104 F1	38553.0	21.3	BAC	43783.9	24.2	B	61.8	KEJBIDHAGCF	row 8	roma
Stallion	38191.0	21.1	BAC	53485.5	29.6	B	61.2	KEJBIDHAGCF	row 1	roma
Roma1	37677.7	20.8	BAC	50585.9	27.9	B	67.0	KEJBIDHAGCF	row 6	roma
SugarSnack	35448.1	19.6	BAC	42469.8	23.5	B	89.6	BDAC	row 3	cherry
ruby	35160.3	19.4	BAC	46502.5	25.7	B	58.9	KEJBIDHAGCF	row 5	roman
frontier	34975.7	19.3	BAC	48544.2	26.8	B	62.3	KEJBIDHAGCF	row 4	roma
grace	33948.4	18.8	BAC	41941.3	23.2	B	83.7	EBDAGCF	row 5	cherry
Viva Itali	32942.0	18.2	BAC	45069.0	24.9	B	58.4	KEJIDHAGCF	row 3	roma
Toro	32490.2	18.0	BAC	48783.1	27.0	B	71.4	EBIDHAGCF	row 1	roma
goldy	32478.3	17.9	BAC	46068.1	25.5	B	57.7	KEJIDHMGCF	row 7	grape
BOS 20/20	32272.3	17.8	BAC	45123.3	24.9	B	59.9	KEJBIDHAGCF	row 3	roma
HALEY31	30136.5	16.7	BAC	38987.4	21.5	B	57.6	KEJIDHMGCF	row 3	roma
Bright pearl	30103.9	20.8	BAC	32145.6	22.2	B	92.7	BAC	row 5	cherry
SSC-44095	29625.0	16.4	BAC	30382.7	16.8	B	96.6	BA	row 8	cherry

Table 1, cont.

Cultivar	Grade A		Duncans	Total wt.		Duncans	Grade A		Duncans	Location		Fruit
	(lb/Acre)	(lb/plant)		(lb/Acre)	(lb/plant)		(Percent)	(East to West)				
Sw. Tangerine	28779.0	15.9	BAC	59295.6	32.8	B	41.3	KJNIPMOL		row 3	large	
SSC-44096	26850.3	14.8	BAC	27410.6	15.1	B	97.6	A		row 8	grape	
1000 semillas	25792.5	17.8	BAC	34665.1	23.9	B	51.0	KEJNIGHMGOFL		row 8	cherry	
Redyear	25585.8	14.1	BAC	27063.1	15.0	B	94.1	BAC		row 7	cherry	
Roma2	24174.4	13.4	BAC	26860.4	14.8	B	87.5	EBDACF		row 9	cherry	
4 th of July	24171.8	16.7	BAC	28026.0	19.4	B	84.1	EBDAGCF		row 3	small	
Golden gem	23957.2	13.2	BAC	56406.8	31.2	B	46.9	KJNIPHMOL		row 5	large	
Ship saint	23892.0	13.2	BAC	41268.0	22.8	B	32.9	KJNIPMOL		row 5	roma	
BOS 8033	23349.0	21.5	BAC	27349.1	15.1	B	65.2	KEJBIDHAGCF		row 9	roma	
Jackpot	22212.3	12.3	BAC	23996.8	129.3	A	25.1	NPMOL		row 1	large	
Balboa	21901.0	12.1	BAC	37123.1	20.5	B	50.8	KEJNIGHMGOFL		row 2	large	
Plum dandy	21358.0	11.8	BAC	35838.0	19.8	B	66.7	KEJBIDHAGCF		Row 1	roma	
Dona F1 628	21029.3	11.6	BAC	61141.8	33.8	B	44.3	KJNIPMOL		row 4	large	
Cortez	20634.0	14.3	BAC	24717.4	17.1	B	50.0	KJNIPHMGOFL		row 7	roma	
Chiquita	19993.3	11.0	BAC	20590.6	11.4	B	94.1	BAC		row 5	cherry	
Tigre	18643.0	10.3	BAC	35751.1	19.8	B	57.2	KEJIDHMGCF		row 1	roma	
Italian Gold	18328.1	10.1	BAC	26498.4	14.6	B	68.7	EJBIDHAGCF		row 2	roma	
Burpee Bunch	18031.9	10.0	BAC	35751.1	19.8	B	43.1	KJNIPMOL		row 2	medium	
FMR-17180	17158.8	9.5	BC	48913.4	27.0	B	40.4	KJNIPMOL		row 2	large	
Precious	15023.0	8.3	BAC	32489.5	18.0	B	28.8	KNPMOL		row 5	large	
SSC-44088	14842.0	10.3	BC	22226.8	15.4	B	46.8	KJNIPHMOL		row 8	roma	
N52 (UH)	14219.4	9.8	BC	34009.9	23.5	B	32.1	KJNIPMOL		row 9	large	
Flav. More 223	11765.0	6.5	BC	20822.2	11.5	B	62.0	KEJBIDHAGCF		row 1	large	
Flav More 215	10679.0	5.9	BC	20720.9	11.4	B	49.0	KJNIPHMOL		row 1	large	
Purple Cherokee	9955.0	5.5	BC	55114.5	30.5	B	12.8	P		row 4	large	
Black Krim	9774.0	5.4	BC	42933.2	23.7	B	18.7	NPO		row 4	large	
Big Rainbow	9683.5	5.4	BC	37467.0	20.7	B	20.4	NPMO		row 4	large	
Flav More 223	7059.0	6.5	BAC	12670.0	11.7	B	60.2	KEJBIDHAGCF		row 1	large	
Green Zebra	6154.0	3.4	BC	19186.0	10.6	B	39.1	KJNIPMOL		row 4	large	
King kong	6042.5	4.2	C	21481.1	14.8	B	13.9	PO		row 9	cherry	
gibraltar	5430.0	3.8	BC	6429.1	4.4	B	88.6	EBDAC		row 8	roma	
kwalo (UH)	4850.8	2.7	C	14606.7	8.1	B	25.4	NPMOL		row 9	large	
Green Grape	4616.2	2.6	BC	6646.3	3.7	B	71.7	EBIDHAGCF		row 4	small?	
Supra	3801.0	3.5	C	5154.9	4.7	B	62.0	KEJBIDHAGCF		row 8	roma	

EARLY YIELDS CONT. CULTIVAR GROUPED BY ALPHABETICAL ORDER

Table 2. Mean yields of Grade A fruit, Total Fruit weight (marketable plus culls), and Percent Grade A fruit of Tomato Cultivars Grown at the UH Poamoho Experiment Station, Summer 1999 (5-6 weeks of harvest)

Cultivar	GradeA (lb/Acre)	GradeA (lb/plant)	Duncan	Totwt (lb/Acre)	Totalwt. (lb/plant)	Duncans	GradeA (Percent)	Duncans (East to West)	Location	Fruit
1000 semillas	25792.5	17.8	BAC	34665.12	23.9	B	50.99	KEJNIMGOFL	row 8	cherry
FlavMore223	11765	6.5	BC	20822.24	11.5	B	61.98	KEJBIDHAGCFL	row 1	large
4 th of July	24171.826	16.7	BAC	28026.04	19.3	B	84.07	EBDAGCF	row 3	small
balboa	21901	12.1	BAC	37123.1	20.5	B	50.84	KEJNIMGOFL	row 2	large
bingo	39639	21.9	BAC	72381.9	39.9	B	38.57	KJNIPMOL	row 2	mediuml
Black Krim	9774	5.4	BC	42933.2	23.7	B	18.72	NPO	row 4	large
Bonsai	61989.242	34.2	BAC	68620.72	37.9	B	83.98	EBDAGCF	row 1	cherry
BOS 20/20	32272.3	17.8	BAC	45123.3	24.9	B	59.87	KEJBIDHAGCFL	row 3	roma
BOS 8033	23349	21.5	BAC	27349.1	15.1	B	65.2	KEJBIDHAGCF	row 9	roma
BOS 8147	49966.86	27.6	BAC	72363.8	39.9	B	56.3	KEJIDHMGCF	row 3&9	roma
Big Raibow	9683.5	5.35	BC	37467	20.7	B	20.35	NPMO	row 4	large
Burpee Bunch	18031.944	9.9	BAC	35751.12	19.7	B	43.07	KJNIPMOL	row 2	medium
Bright Pearl	30103.92	20.79	BAC	32145.6	22.2	B	92.65	BAC	row 5	cherry
Capita	40148.696	22.1	BAC	51085.44	28.2	B	51.89	KEJNIDHMGFL	row 7	medi-mall
Casa del Sol	41268	22.8	BAC	50299.9	27.7	B	61.97	KEJBIDHAGCFL	row 7	roma
Chiquita	19993.26	11.0	BAC	20590.56	11.3	B	94.05	BAC	row 5	cherry
Cherry time	39100.344	21.6	BAC	43070.76	23.7	B	88.91	EBDAC	row 2	cherry
Cortez	20634	14.25	BAC	24717.36	17.0	B	49.96	KJNIPHMGFL	row 7	roma
Daiquiri	46843.524	25.8	BAC	57796.92	31.9	B	74.57	EBIDHAGCF	row 7	roma
Dania	38904.14	21.4	BAC	48127.9	26.5	B	82.93	EBDHAGCF	row 4	roma
Dona	21029.304	11.61	BAC	61141.8	33.7	B	44.29	KJNIPMOL	row 4	large
EG-104	41676.336	23.0	BAC	53040.24	29.3	B	54.21	KEJNIDHMGFL	row 7	roma
Ensalada	46531.48	25.70	BAA	59024.1	32.6	B	76.54	EBIDHAGCF	row 3	roma
Flav More 215	10679	5.9	BC	20720.88	11.4	B	48.98	KJNIPHMGOL	row 1	large
Flav more 223	7059	6.5	BAC	12670	11.6	B	60.21	KEJBIDHAGCFL	Row 1	large
FMR17180	17158.8	9.48	BC	48913.44	27.0	B	40.39	KJNIPMOL	row 2	large
frontier	34975.716	19.32	BAC	48544.2	26.8	B	62.25	KEJBIDHAGCFL	row 4	roma
green grape	4616.224	2.5	BC	6646.32	3.6	B	71.66	EBIDHAGCF	row 4	grape
Gibraltar	5430.0	3.75	BC	6429.12	4.4	B	88.63	EBDAC	row 8	roma
Goldem gem	23957.16	13.2	BAC	56406.84	31.1	B	46.88	KJNIPHMGOL	row 5	large

Table 2 cont.

Cultivar	GradeA (lb/Acre)	GradeA (lb/plant)	Duncans	Totwt (lb/Acre)	Totalwt. (lb/plant)	Duncans	GradeA(%)	Duncans	Location East to West	Fruit
goldy	32478.278	17.94	BAC	46068.12	25.4	B	57.69	KEJIDHMGCF	row 7	grape
grace	33948.36	18.7	BAC	41941.32	23.1	B	83.68	EBDAGCF	row 5	cherry
green zebra	6154	3.4	BC	19186	10.6	B	39.1	KJNPMOL	row 4	large
HALEY31	30136.5	16.65	BAC	38987.4	21.5	B	57.57	KEJIDHMGCF	row 3	roma
Italian gold	18328.06	10.1	BAC	26498.4	14.6	B	68.73	EJBDHAGCF	row 2	roma
Jack pot	22212.32	12.2	BAC	233996.8	129.2	A	25.12	NPMOL	row 1	large
King kong	6042.504	4.173	C	21481.08	14.8	B	13.93	PO	row 9	cherry
Kevalo (UH)	4850.8	2.68	C	14606.7	8.0	B	25.38	NPMOL	row 9	large
N52 (UH)	14219.36	9.82	BC	34009.9	23.4	B	32.11	KJNPMOL	row 9	large
Purple cherokee	9955.0	5.5	BC	55114.5	30.4	B	12.8	P	row 4	large
Plum dandy	21358.0	11.8	BAC	35838	19.8	B	66.74	KEJBIDHAGCF	row 1	roma
precious	15023.0	8.3	BAC	32489.5	17.9	B	28.8	KNPMOL	row 5	large
redyear	25585.798	14.1	BAC	27063.12	14.9	B	94.11	BAC	row 7	cherry
roma1	37677.684	20.8	BAC	50585.88	27.9	B	67.03	KEJBIDHAGCF	row 6	roma
roma2	24174.36	13.3	BAC	26860.4	14.8	B	87.52	EBDAGCF	row 9	cherry
roma VF	43674.576	24.1	BAC	48131.52	26.5	B	83.68	EBDAGCF	row 7	roma
ruby	35160.336	19.4	BAC	46502.52	25.6	B	58.87	KEJBIDHAGCF	row 5	roma
sugar snack	35448.126	19.5	BAC	42469.84	23.4	B	89.59	BDAC	row 3	cherry
ship saint	23892	13.2	BAC	41268	22.8	B	32.93	KJNPMOL	row 5	roma
SSC-44088	14842	10.2	BC	22226.8	15.3	B	46.84	KJNIPMGOL	row 8	roma
SSC-44095	29624.994	16.3	BAC	30382.66	16.7	B	96.58	BA	row 8	cherry
SSC-44096	26850.264	14.8	BAC	27410.64	15.1	B	97.64	A	row 8	grape
stallion	38191	21.1	BAC	53485.5	29.5	B	61.18	KEJBIDHAGCF	row 1	roma
supra	3801	3.5	C	5154.88	4.7	B	61.95	KEJBIDHAGCF	row 8	roma
swt tangerine	28779	15.9	BAC	59295.6	32.7	B	41.27	KJNIPMOL	row 3	large
tigre	18643	10.3	BAC	35751.12	19.7	B	57.16	KEJIDHMGCF	row 1	roma
tina	43127.232	23.8	BAC	68678.64	37.9	B	51.91	KEJNIDHMGFL	row 6&9	roma
tirano	41760.32	23.0	BAC	72363.8	39.9	B	64.85	KEJBIDHAGCF	row 2	roma
toro	32490.224	17.9	BAC	48783.12	26.9	B	71.44	EBIDHAGCF	row 1	roma
tough boy	40197.204	22.2	BAC	56862.96	31.4	B	45.06	KJNIPMOL	row 5	roma
Tropi Mech	49608.48	27.4	BAC	83578.56	46.1	B	44.78	KJNIPMOL	row 6&9	medium
tuscany	55994.16	30.9	AAA	78246.3	43.2	B	75.19	EBIDHAGCF	row 2	roma
V104 F1	38553	21.3	BAC	43783.9	24.1	B	61.84	KEJBIDHAGCF	row 8	roma
Viva Italy	32942	18.2	BAC	45069	24.9	B	58.37	KEJIDHAGCF	row 3	roma

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test ($P < 0.05$).

Table 3. Growth evaluation of tomato varieties during the vegetative stage, fruit set, and after 5 weeks of harvest, measured on June 10, July 20, and August 12, 1999, respectively, at the UH Poamoho Experiment Station.

Index Values: Vigor index (ranges from 1-10) evaluated on June 10, July 20 and Aug. 12, 10= best; Disease/Pest pressure index (ranges from 1-10), evaluated on July 20 and Aug 12, 10= worst damage; Flower and fruit set evaluated on June 10 and July 20, respectively, 10= best; Overall growth evaluated on July 20, 10=best.

Abbreviations: st= thick stems; fr= fruiting; mr= foliage reaching middle rows; mf= mature fruit

Cultivar	Height June (inches)	Height Aug. (inches)	Avg. Vigor (10=best)	Avg. Disease (10=worst)	Flower/Frt set (10=best)	Overall growth early (10=best)	Comments June 10th (early growth)	Comments Aug. 12 (5th wk of harvests)
Terrace 1 (highest pH= 7.4)								
Plum dandy	40.9	35.4	7.3	3.5	9.0	7.0		
Jackpot	34.6	35.4	7.7	3.5	7.0	6.0	fr	
Flav. More 215	39.4	47.2	8.7	3.0	6.5	8.0		
Flav More 223	29.9	53.1	8.0	4.0	7.0	9.0	st; wide compact	2 plants diseased
Tigre	36.6	47.2	6.7	5.5	7.0	6.0	fr; st; compact	
Toro	37.4	47.2	6.3	6.5	7.5	6.0	fr; erect	
Stallion	37.8	53.1	6.3	6.5	7.5	6.0	fr; erect	
Bonsai	38.2	47.2	4.7	9.5	8.0	4.0	fr; mr; good taste, sweet	
Cherry time	47.2	82.7	9.7	1.5	7.5	9.0	st; mf; fr; indeterminate	
Bingo	34.3	53.1	6.7	5.5	5.5	6.0	fr; nice compact; heavy fruit set	
Tirano	49.6	70.9	8.7	4.5	7.0	7.0	fr; indeterminate; very vigorous	
Tuscany	36.6	59.1	6.0	5.5	8.0	6.0	fr	
FMR-t17180	41.7	47.2	8.0	4.0	6.5	9.0	fr	
Balboa	36.2	53.1	8.3	2.5	6.5	9.0	fr; small compact canopy	
Italian gold	37.0	59.1	7.3	3.0	6.0	9.0	uniform; wrinkled leaves; erect habit	
Burpee bunch	31.5	70.9	8.3	4.5	6.5	8.0	fr; prostrate; wide canopy	

Table 3, cont.

Cultivar	Height June (inches)	Height Aug. (inches)	Avg. Vigor (10=best)	Avg. Disease (10=worst)	Flower/Frt set (10=best)	Overall growth early (10=best)	Comments June 10th (early growth)	Comments Aug. 12 (5th wk of harvests)
Terrace 2 (mid pH= 6.0)								
4 th of July	28.3	47.2	7.0	4.0	6.5	8.0	st	
Sw fangerine	37.0	41.3	7.0	2.5	7.5	8.0		
Ensalada	31.5	41.3	7.0	4.0	9.0	7.0	nice; nice compact	2 diseased plants
Viva italia	35.4	41.3	6.7	4.0	7.5	8.0		
Sugar snack	66.1	82.7	8.0	5.0	9.0	7.0	good taste; sparse canopy; small frt;	3 dis plants
BOS 20/20	29.9	41.3	6.0	4.5	7.5	7.0	semi ripe; prostrate	
BOS 8147	27.2	41.3	5.3	5.0	7.5	7.0	prostrate; uniform, short, compact	
Haley 3155	32.7	0.0	6.0	4.0	6.5	6.0	prostrate; uniform, short, compact	
Black krim293	45.7	70.9	6.7	4.5	5.5	7.0	not uniform	2 plants diseased
Dona	37.0	23.6	5.7	6.5	6.0	7.0	high vigor; few fruits	
Green grape	32.7	41.3	7.3	3.0	6.5	8.0	short and compact	1 plant diseased
Green-zebra	44.1	59.1	7.0	4.5	7.5	9.0	st; uniform, large canopy	
Purple cherokee	35.4	53.1	7.3	6.0	7.0	8.0		
Big Rainbow	41.3	70.9	7.7	3.0	7.0	8.0	wide large canopy	vigor going down
Dania	39.4	41.3	5.7	6.0	8.5	7.0	st; large leaflets	
Frontier	29.5	35.4	6.0	6.5	8.0	6.0	good ft set	
Bright pearl	45.7	82.7	8.3	2.0	8.0	9.0	open canopy	
Golden gem	44.1	59.1	6.7	4.0	6.5	7.0	st; uniform	
Grace	40.9	59.1	6.3	4.5	9.0	6.0	open canopy	1 diseased plant
Chiquita	60.6	82.7	9.0	1.0	8.0	10.0	nice clusters; indeterminate	v/sm. fruit + pebble
size								
Ruby	46.5	35.4	7.0	4.5	6.5	8.0	st	
Precious	32.3	35.4	7.0	4.5	6.5	8.0	compact	
Toughboy	33.5	41.3	4.7	7.5	7.0	5.0	short	blossom end-rot
Ship saint	32.3	41.3	4.7	8.0	6.0	5.0	compact	
Tropi mech	34.6	41.3	5.0	7.0	6.5	4.0	looks good; short compact	
Tina	26.0	41.3	5.0	7.5	6.5	5.0	large leaflets; prostrate flat	
Roma	39.0	35.4	7.0	5.0	8.0	7.0		

Notes: **Index Values:** Vigor index (ranges from 1-10) evaluated on June 10, July 20 and Aug. 12, 10= best; Disease/Pest pressure index (ranges from 1-10), evaluated on July 20 and Aug 12, 10= worst damage; Flower and fruit set evaluated on June 10, and July 20, respectively, 10= best; Overall growth evaluated on July 20, 10=best. **Abbreviations:** st= thick stems; fr= fruiting; mr= foliage reaching middle rows; mf= mature fruit

Table 3, cont.

Cultivar	Height June (inches)	Height Aug. (inches)	Avg. Vigor (10=best)	Avg. Disease (10=worst)	Flower/Frt set (10=best)	Overall growth early (10=best)	Comments June 10th (early growth)	Comments Aug. 12 (5th wk of harvests)
Terrace 3 (lowest pH= 5.5, down to 4.5 on V-104, Flv. More 223, Gibraltar, Supra, Tina & TropiMech)								
Casa del sol	26.8	47.2	4.3	7.0	7.5	5.0	prostrate	
Cortez	28.7	41.3	5.3	6.0	6.5	7.0	short, compact	3 plants diseased
EG-104	33.5	41.3	4.3	8.5	9.0	3.0	thin stems, petiole	
Goldy	46.1	41.3	5.3	7.5	7.5	6.0	thin petiole; indeterminate; erect habit	
Daiquiri	26.8	41.3	5.3	6.0	6.5	5.0	prostrate, nice clusters	
Roma VF	31.5	59.1	6.3	5.0	6.5	7.0	nice uniform; nice canopy	going down
Redyear	41.7	41.3	5.7	6.5	8.0	6.0	nice clusters; erect	2 diseased plants
Capita	55.1	47.2	8.0	4.5	7.0	8.0	somewhat open, canopy over; indeterminate	
1000 Semillas	30.7	47.2	6.3	5.5	6.5	7.0	nice (7ft) clusters	
SSC-44088	19.7	41.3	5.7	4.5	6.5	7.0	prostrate flat	
SSC-44099	41.7	53.1	6.0	3.5	8.0	8.0	thin stems, open canopy	v/ sm. cheuit2 cm.
SSC-44095	42.1	70.9	8.0	2.5	8.5	10.0	thin stems, open canopy	
V104fl	28.7	35.4	5.0	7.0	6.0	6.0	large leaflets	
Flav. More 223	38.2	59.1	3.3	6.5	5.0	5.0	(only 1) other 2 are decreased	
Gibraltar	20.9	41.3	3.3	6.5	4.5	6.0		
Supra	30.7	41.3	3.0	8.0	3.5	3.0	same as above?	3 plants missing large fruit
BOS-8147	20.9	41.3	4.0	8.0	5.5	5.0		
BOS-8033	23.6	35.4	3.7	8.0	6.0	6.0		
King kong	41.3	59.1	8.0	2.0	7.5	10.0	open canopy	
Kewalo (UH)	34.6	59.1	7.0	3.0	6.0	9.0	weak; small compact	collapsed
N-52 (UH)	38.2	41.3	7.7	3.5	6.0	8.0		collapsed
Tropi mech collapsed	38.2	41.3	7.7	3.5	6.0	8.0	(2 weak)	looks good but
Tina	34.3	47.2	8.0	2.5	7.5	8.0	indeterminate, cherry?? (mislabelled??)	
Roma?	55.1	70.9	8.7	4.0	8.5	10.0		

Notes: **Index Values:** Vigor index (ranges from 1-10) evaluated on June 10, July 20 and Aug. 12, 10= best; Disease/Pest pressure index (ranges from 1-10), evaluated on July 20 and Aug 12, 10= worst damage; Flower and fruit set evaluated on June 10, and July 20, respectively, 10= best; Overall growth evaluated on July 20, 10=best.

Abbreviations: st= thick stems; fr= fruiting; mr= foliage reaching middle rows; mf= mature fruit

Poamoho 1999, Arranged from highest to lowest yielding varieties.

TOTAL YIELDS CULTIVAR GROUPED FROM HIGHEST GRADE A TO LOWEST GRADE A YIELDS

Table 4. Mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of Tomato Cultivars Grown at the UH Poamoho Experiment Station, Summer 1999 (8 weeks of harvest).

Cultivar	WtA /plant	Wt A /Ac	wt-mkt /Acre	wt-tot /Acre	Grade A (%)	N
Roma VF	44.1	79743.82	79743.82	91786.77	83.7	9
Cherry Time	42.12	76163.49	76488.97	82998.67	89.9	9
Toro	41.86	75693.34	78984.36	101262.00	76	7
Stallion	40.48	73197.96	78695.04	94896.96	69.2	8
Tuscany	40a-d	72330.00	79273.68	97211.52	78	8
Bonsai	39.96	72257.67	74210.58	79743.82	85.2	9
Tirano	39.04	70594.08	79563.00	104733.84	74	8
Italian gold	37.76	68279.52	72619.32	79852.32	78.1	8
Burpee Bunch	37.62	68026.36	79092.85	91135.8	58.9	9
Daiquiri	37.44	67700.88	68351.85	81371.25	78.2	9
Plum Dandy	37.24	67339.23	71389.71	94173.66	71.3	7
Roma 1	36.18	65422.48	66398.94	84300.61	72.4	9
Dania	35.52	64229.04	64807.68	78116.4	86	8
Ruby	35.28	63795.06	63795.06	81045.76	67.5	9
Capita	35.00	63288.75	64373.70	81732.9	59.4	10
Bingo	33.92	61335.84	73487.28	107337.72	47.5	8
v104 F1	33.76	61046.52	61046.52	69726.12	72.2	8
Tough Boy	33.48	60540.21	60865.69	82022.22	56.7	9
BOS 20/20	33.44	60467.88	61625.16	79563	69.1	8
Ensalada	33.28	60178.56	61625.16	74933.88	79.2	8
Frontier	33.12	59889.24	61516.66	77465.43	70.1	9
Flav more215	33.04	59744.58	69364.47	86579.01	58.1	7
Tigre	33.04	59744.58	64301.37	81769.06	70	7
Bright Pearl	32.58	58912.78	58912.78	63144.09	92.6	9
HALEY 31	31.84	57574.68	58442.64	71751.36	67.7	8
Sugar snack	31.80	57502.35	57864.00	65097	91.7	10
Flav More223e	30.24	54681.48	59744.58	76705.96	67.6	7
Viva Italia	29.28	52945.56	53234.88	67700.88	70.3	8
SSC-44095	29.20	52800.9	52800.90	54970.8	95.9	10
Balboa	29.12	52656.24	62203.80	78116.4	59.9	8
1000 semillas	28.44	51426.63	52403.08	64446.03	63.1	9
BOS 8147	28.16	50920.32	52945.56	67411.56	66.2	8
Casa del Sol	27.36	49473.72	50341.68	60757.2	69.7	8
SSC-44096	27.36	49473.72	49473.72	51101.145	97	9
Ship Saint	27.00	48822.75	49473.72	74210.58	46.8	9
Grace	26.10	47195.32	47195.32	56959.87	84.6	9

continues.

Table 4 cont.

Cultivar	WtA /plant	Wt A /Ac	wt-mkt /Acre	wt-tot /Acre	Grade A (%)	N
EG-104	25.56	46218.87	46869.84	58587.3	65.2	9
Tina	25.02	45242.41	52077.6	66073.45	60.5	9
Goldy	24.80	44844.6	45567.90	63288.75	62.3	10
Swt Tangarine	24.80	44844.6	54681.48	80430.96	53.7	8
Precious	23.52	42530.04	51498.96	77827.08	41.7	8
Fourth of July	23.40	42313.05	42313.05	47737.8	86.3	10
Roma 2 (cherry)	23.40	42313.05	42313.05	46652.85	89	10
Tropi Mech	22.50	40685.62	47195.32	65747.97	55.6	9
Kewalo	21.92	39636.84	48605.76	62203.8	43.7	8
SSC-44088	21.44	38768.88	38768.88	49763.04	61.9	8
Jack pot	21.28	38479.56	48027.12	263859.84	35.5	8
Chiquita	20.88	37756.26	37756.26	39058.2	94.3	9
Cortez	20.16	36454.32	36779.80	44916.93	59.8	9
BOS 8033	19.52	35297.04	35297.04	41662.08	69.4	8
FMR17180	19.44	35152.38	49473.72	85602.55	42.7	9
Gibraltar	19.44	35152.38	35152.38	39058.2	89.6	6
Golden Gem	19.26	34826.89	52403.08	80069.31	50.8	9
Green zebra	18.34	33163.30	41517.42	59491.42	49.4	7
Dona	18.00	32548.50	52077.60	87880.95	46.6	9
King kong	16.74	30270.10	37756.26	59563.75	31.8	9
N-52	16.64	30089.28	39058.20	58731.96	46.8	8
Red year	16.60	30016.95	31825.20	35441.7	85	10
Big Rainbow	11.20	20252.40	35586.36	64229.04	28.6	8
Black Krim	9.120	16491.24	29510.64	59310.6	26.3	8
Supra	8.68	15695.61	15695.61	19239.78	71.3	7
Purple Cherokee	8.00	14466.00	32114.52	64518.36	25.8	8
Green Grape	5.46	9873.04	10126.20	13417.21	75.2	7

**TOTAL YIELDS, POAMOHU 1999
CULTIVAR GROUPED BY ALPHABETICAL ORDER**

Table 5. Mean yields of Grade A fruit, Total Fruit weight (marketable plus culls), and Percent Grade A fruit of Tomato Cultivars Grown at the UH Poamoho Experiment Station, Summer 1999 (8 weeks of harvest)

Cultivar	WtA /plant	Wt A /Ac	wt-mkt /Acre	wt-tot /Acre	Grade A (%)	N
1000 semillas	28.44	51426.6	52403.1	64446.0	63.1	9
Flav More 223	30.24	54681.5	59744.6	76706.0	67.6	7
Balboa	29.12	52656.2	62203.8	78116.4	59.9	8
Big Rainbow	11.2	20252.4	35586.4	64229.0	28.6	8
Bingo	33.92	61335.8	73487.3	107337.7	47.5	8
Black Krim	9.12	16491.2	29510.6	59310.6	26.3	8
Bonsai	39.96	72257.7	74210.6	79743.8	85.2	9
BOS 20/20	33.44	60467.9	61625.2	79563.0	69.1	8
BOS 8033	19.52	35297.0	35297.0	41662.1	69.4	8
BOS 8147	28.16	50920.3	52945.6	67411.6	66.2	8
Burpee Bunch	37.62	68026.4	79092.9	91135.8	58.9	9
Bright Pearl	32.58	58912.8	58912.8	63144.1	92.6	9
Capita	35	63288.8	64373.7	81732.9	59.4	10
Casa del Sol	27.36	49473.7	50341.7	60757.2	69.7	8
Chiquita	20.88	37756.3	37756.3	39058.2	94.3	9
Cherry Time	42.12	76163.5	76489.0	82998.7	89.9	9
Cortez	20.16	36454.3	36779.8	44916.9	59.8	9
Daiquiri	37.44	67700.9	68351.9	81371.3	78.2	9
Dania	35.52	64229.0	64807.7	78116.4	86	8
Dona	18	32548.5	52077.6	87881.0	46.6	9
EG-104	25.56	46218.9	46869.8	58587.3	65.2	9
Ensalada	33.28	60178.6	61625.2	74933.9	79.2	8
Flav more215	33.04	59744.6	69364.5	86579.0	58.1	7
FMR17180	19.44	35152.4	49473.7	85602.6	42.7	9
Fourth of July	23.4	42313.1	42313.1	47737.8	86.3	10
Frontier	33.12	59889.2	61516.7	77465.4	70.1	9
Gibraltar	19.44	35152.4	35152.4	39058.2	89.6	6
Golden Gem	19.26	34826.9	52403.1	80069.3	50.8	9
Goldy	24.8	44844.6	45567.9	63288.8	62.3	10
Grace	26.1	47195.3	47195.3	56959.9	84.6	9
Green Grape	5.46	9873.0	10126.2	13417.2	75.2	7
Green zebra	18.34	33163.3	41517.4	59491.4	49.4	7
HALEY 31	31.84	57574.7	58442.6	71751.4	67.7	8

continues.

Table 5 cont.

Cultivar Duncans	GradeA Location (lb/Acre)	GradeA Fruit (lb/plant)	Duncans (lb/Acre)	Totwt (lb/plant)	Totalwt.	Duncans	GradeA(%)
Italian gold	37.76	68279.5	72619.3	79852.3	78.1	8	
Jack pot	21.28	38479.6	48027.1	263859.8	35.5	8	
King kong	16.74	30270.1	37756.3	59563.8	31.8	9	
Kewalo	21.92	39636.8	48605.8	62203.8	43.7	8	
N-52	16.64	30089.3	39058.2	58732.0	46.8	8	
Purple Cherokee	8	14466.0	32114.5	64518.4	25.8	8	
Plum Dandy	37.24	67339.2	71389.7	94173.7	71.3	7	
Precious	23.52	42530.0	51499.0	77827.1	41.7	8	
Red year	16.6	30017.0	31825.2	35441.7	85	10	
Roma 1	36.18	65422.5	66398.9	84300.6	72.4	9	
Roma 2 (cherry)	23.4	42313.1	42313.1	46652.9	89	10	
Roma VF	44.1	79743.8	79743.8	91786.8	83.7	9	
Ruby	35.28	63795.1	63795.1	81045.8	67.5	9	
Ship Saint	27	48822.8	49473.7	74210.6	46.8	9	
SSC-44088	21.44	38768.9	38768.9	49763.0	61.9	8	
SSC-44095	29.2	52800.9	52800.9	54970.8	95.9	10	
SSC-44096	27.36	49473.7	49473.7	51101.1	97	9	
Stallion	40.48	73198.0	78695.0	94897.0	69.2	8	
Sugar snack	31.8	57502.4	57864.0	65097.0	91.7	10	
Supra	8.68	15695.6	15695.6	19239.8	71.3	7	
Swt Tangarine	24.8	44844.6	54681.5	80431.0	53.7	8	
Tigre	33.04	59744.6	64301.4	81769.1	70	7	
Tina	25.02	45242.4	52077.6	66073.5	60.5	9	
Tirano	39.04	70594.1	79563.0	104733.8	74	8	
Toro	41.86	75693.3	78984.4	101262.0	76	7	
Tough Boy	33.48	60540.2	60865.7	82022.2	56.7	9	
Tropi Mech	22.5	40685.6	47195.3	65748.0	55.6	9	
Tuscany	40	72330.0	79273.7	97211.5	78	8	
v104 F1	33.76	61046.5	61046.5	69726.1	72.2	8	
Viva Italia	29.28	52945.6	53234.9	67700.9	70.3	8	

Poamoho Tomato Cultivar Trial

Table 6. Skin firmness of several specialty tomato varieties grown at the Poamoho Experiment Station, Spring & Summer 1999.

Cultivar	Skin firmness	Skin firmness	Skin firmness N	
	At harvest (km/cm ²)	1 week later (km/cm ²)	Average (km/cm ²)	
FMRT 17180	1.78a	2.17d-h	1.97a	18
Flavor More 215	1.74a	1.53l-o	1.64b-d	18
Ensalada	1.57b	NA	1.57b-g	12
Kewalo	1.40c	1.42m-o	1.41g-n	18
Daiquiri	1.37dc	2.58bc	1.54d-h	21
Toro	1.29cde	2.49cd	1.69bc	27
Frontier	1.29cde	2.11g-I	1.62b-e	30
BOS-8147	1.28c-f	2.32c-f	1.70bc	60
BOS-8033	1.28c-f	2.22d-g	1.59b-f	27
BOS-2020	1.26c-g	1.72l-n	1.41g-m	27
SSC-44080	1.23d-h	2.82b	1.95a	33
Toughboy	1.22d-h	3.21a	1.88a	27
Tuscany	1.20d-I	2.79b	1.73b	27
Stallion	1.88e-j	2.14e-I	1.50d-j	27
Ship saint	1.18e-j	2.35c-f	1.57b-g	27
Flavor More 223	1.12f-k	2.09g-j	1.28h-o	33
Tigre	1.12f-k	2.10g-j	1.45e-l	27
Golden gem	1.11g-k	1.75j-m	1.33j-o	27
Casa del sol	1.10g-l	1.86h-l	1.35i-o	27
EG104	1.09h-m	1.82i-l	1.33j-o	27
Supra	1.05i-n	2.46c-e	1.52d-i	27
Gibraltar	1.05i-n	2.33d-g	1.44e-l	27
Cortez	1.04i-n	1.80i-l	1.30l-o	27
Viva Italia	1.02j-o	2.42c-f	1.49d-k	27
Red Year	1.02j-o	1.87h-l	1.22n-q	51
V-104 (Siegers)	1.00k-o	2.33c-f	1.45d-l	27
SCC-44096	1.00k-p	1.92g-k	1.30l-o	27
Burpee Bunch	1.00k-p	1.85h-l	1.28l-o	27
Jack pot	0.97k-r	NA	0.97s-x	18
1000 semillas	0.96k-s	1.80i-l	1.24m-p	27
Tirano	0.95k-s	1.72l-m	1.20p-r	27
Grace	0.95k-s	NA	0.95s-x	18
Plum dandy	0.94l-t	1.86h-l	1.25m-p	27
Precious	0.93m-u	0.73q	0.88u-x	36
Sugarsnack	0.89n-v	1.37n-p	1.05r-u	27
Dania	0.87o-w	1.81i-l	1.34i-o	36
Green Zebra	0.87o-w	NA	0.87v-x	3

continues.

Table 6 cont.

Cultivar	Skin firmness At harvest (km/cm ²)	Skin firmness 1 week later (km/cm ²)	Skin firmness Average (km/cm ²)	N
Italian gold	0.85p-w	1.39n-p	1.03s-v	27
Ruby	0.83q-x	1.69l-o	1.26m-p	36
SSC-44095	0.82r-x	1.67l-o	1.10p-s	27
Balboa	0.81r-y	NA	0.81xy	18
Roma (Technisem)	0.80r-y	1.58l-o	1.06q-t	27
Roma cherry	0.80r-y	1.20p	1.00s-w	54
Cherry time	0.77t-z	1.45m-p	1.00s-w	27
Capita	0.77u-z	1.16p	0.93s-x	30
Chiquita	0.76u-z	1.54l-o	1.02s-w	27
Bright Pearl	0.76u-z	1.37n-p	0.96s-x	27
Tina	0.75v-z	2.18d-h	1.36h-o	42
Goldy	0.72w-z	1.58l-o	1.00s-w	27
Green Grape	0.66x-a	NA	0.6zy	15
King Kong	0.65y-b	NA	0.65y-a	15
N-52	0.62y-b	1.14p	0.84wx	30
Dona F1	0.61z-c	NA	0.61za	18
Tropi Mech	0.54a-c	1.90g-k	0.96s-x	39
Roma VF (Willhite)	0.49b-d	NA	0.49AB	9
Big Rainbow	0.48cd	NA	0.48AB	6
Black Krim	0.47cd	1.14p	0.80xy	18
Sweet Tangerine	0.35de	NA	0.35BC	12
Bingo	0.25ef	NA	0.25CD	9
Flavor More	0.23ef	NA	0.23CD	9
Haley 315	0.19f	1.57l-o	0.88t-x	18
4 th of July	0.19f	NA	0.19CD	9
Bonsai	0.12f	NA	0.12D	9
At harvest Means				
Average 7/19	0.20b		0.20d	540
Average 8/23	1.70a		1.70b	537
One week after harvest, 9 days				
Average 7/27		1.61a	1.61c	129
Average 8-30		1.95b	1.95a	378

Note: N= number of samples for each variety. Also see: Table 17.

Fruit firmness data was collected on two separate harvest dates (7/19 & 8/30). For each harvest data was collected at harvest, and again 7 days later. Fruit firmness was determined with a penetrometer to evaluate the strength needed (in km/cm²) to break the skin. Measurements were taken on 3 fruits per sampling date, and 3 measurements were taken per fruit. Because for these measurement we used a blunter tip, softer fruit actually offered more resistance, so for this table the higher pressure values reflect a 'softer' fruit. The firmer skin offered less resistance and the tip thus broke through using less force. You can tell this because firmness values actually increased on the one-week old fruit (7/27 & 8/30, bottom of table) compared to values obtained a week earlier (7/19 & 8/23) on the younger fruit.

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Poamoho 1999

Table 7. Soluble solids (estimate of percent sugars) of several specialty tomato varieties grown at the Poamoho Experiment Station, Spring & Summer 1999.

Cultivar	Sugars At harvest (%)	Sugars 1 week later (%)	Sugars Average (%)	N
Chiquita	7.65	9.00	8.10	3
Sugar snack	7.00	7.00	7.00	3
Grace	6.75	NA	6.75	2
Roma, cherry	6.50	6.00	6.33	3
SSC-44095	6.25	5.00	5.83	3
SSC-44096	6.25	5.50	6.00	3
Bright pearl	6.00	6.00	6.00	3
Goldengem	5.75	4.00	5.16	3
Precious	5.50	5.00	5.37	4
Tigre	5.25	4.00	4.83	3
Italian Gold	5.10	5.00	5.07	3
Cherry time	5.10	5.00	5.07	3
King Kong	5.10	NA	5.10	2
4 th of July	5.00	NA	5.00	1
BOS-8033	5.00	4.00	4.67	3
Flavor More	5.00	NA	5.00	1
Big Rainbow	5.00	NA	5.00	2
EG-104	5.00	4.00	4.67	3
Frontier	5.00	4.50	4.75	2
Haley	5.00	4.00	4.50	2
Ensalada	5.00	NA	5.00	2
Kewalo	5.00	5.00	5.00	2
Greengrape	5.00	NA	5.00	2
Balboa	5.00	NA	5.00	2
CasadelSol	5.00	5.00	5.00	3
Viva Italia	5.00	5.00	5.00	3
Tina	4.77	4.00	4.60	5
Dona	4.75	NA	4.75	2
Tough boy	4.75	5.00	4.83	3
Ruby	4.75	4.50	4.62	4
TropiMech	4.68	4.87	4.76	5
Tirano	4.55	4.00	4.40	3
Gibraltar	4.50	4.00	4.33	3

continues.

Table 7 cont.

Cultivar	Sugars At harvest (%)	Sugars 1 week later (%)	Sugars Average (%)	N
Sweet tangerine	4.50	NA	4.50	2
V-104 (Siegers)	4.50	4.00	4.33	3
Dania	4.50	4.00	4.25	4
Supra	4.50	4.00	4.33	3
Goldy	4.50	4.00	4.33	3
1000 semillas	4.50	4.00	4.33	3
BOS 20/20	4.50	4.50	4.50	3
Flavor More 215	4.50	4.00	4.25	2
Daiquiri	4.50	5.00	4.67	3
Burpee Bunch	4.35	4.00	4.23	3
Red Year	4.30	3.75	4.12	6
Capita	4.25	3.50	3.87	4
Cortez	4.25	4.00	4.17	3
N-52	4.25	4.37	4.31	4
Ship saint	4.25	5.00	4.50	3
BOS-8147	4.25	4.00	4.14	7
Black Krim	4.12	4.00	4.08	3
SSC-44088	4.00	3.50	3.75	4
Bingo	4.00	NA	4.00	1
Toro	4.00	4.00	4.00	3
Roma VF	4.00	4.12	4.06	4
FMT-1718	4.00	4.00	4.00	2
Jackpot	4.00	NA	4.00	2
Plum dandy	4.00	4.00	4.00	3
Tuscany	4.00	4.00	4.00	3
Roma (Technisem)	3.95	4.00	3.97	3
Flavor More 223	3.93	4.00	3.95	4
Bonsai	3.80	NA	3.80	1
Stallion	3.75	4.00	3.83	3
Green Zebra	3.00	NA	3.00	1
At harvest Means				
Average 7/19	4.79a		4.79a	63
Average 8/23	4.78a		4.78a	62
One week after harvest, 9 days				
Average 7/27		4.49a	4.49b	18
Average 8-30		4.41a	4.41b	43

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 8. **Early Yields, Waimanalo (ca. 3 month harvest)**. Mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of Tomato Cultivars Grown at the UH **Waimanalo** Experiment Station (sea-level), Summer/Fall 2000 (14 harvests).

Cultivar	Grade A per plant (lbs)	Grade A per Acre (lbs)	Unmkt per plant (lbs)	Unmkt per acre (lbs)	Marketable per acre (lbs)	Total weight (lbs/Acre)	Grade A (%)
Tom. 870	102.8a	185815.8	9.3ab	8101.0	186828.4a	194929.4a	86.8a
Tom. 574	94.6a	171132.8	15.7ab	13670.4	171132.8a	185309.5a	75.6a
Ovata	92.1a	166576.0	3.5b	3037.9	167588.6a	170626.5a	82.9a
RX200196	75.6a	136703.7	23.2a	20252.4	136703.7a	157462.4a	76.9a
Daiquiri	66.1a	119489.2	22.6a	19746.1	121008.1a	140754.2a	74.1a
Supra	65.0a	117463.9	13.3ab	11645.1	117970.2a	129615.4a	76.1a
Ensalada	64.1a	115945.0	13.3ab	11645.1	116451.3a	128096.4a	81.1a
BOS8033	63.7a	92148.4	10.9ab	7594.7	90123.2a	98730.5a	81.9a
HA3307	63.0a	113919.8	8.1ab	7088.3	119489.2a	126577.5a	85.6a
Classica	63.0a	113919.8	10.4	9113.6	115945.0a	125058.6a	86.7a
Vitta Gold	61.0a	110375.6	10.4	9113.6	112400.8a	122020.7	85.5a
Roma	60.5a	109363.0	20.3ab	17720.9	110881.9a	128602.7a	74.5a
Marina	59.6a	107844.0	16.2ab	14176.7	108350.3a	122020.7a	71.3a
Veronica	59.4a	107337.7	11.6ab	10126.2	109363.0a	119489.2a	79.7a
Tuscany	54.0a	97717.8	16.8ab	14683.0	98224.1a	113413.4a	81.4a
BOS8147	51.0a	92148.4	24.4a	21265.0	93667.4a	114932.4a	76.9a
TropiMech	47.3a	85566.4	17.4ab	15189.3	87085.3a	102274.6a	78.5a
Significance	ns		**		ns	ns	ns

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 9. **Early Yields, Poamoho.** Mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of several specialty Tomato Cultivars Grown at the UH **Poamoho** Experiment Station (800 ft elevation), Summer/Fall 2000 (14 harvests).

Cultivar	Grade A per plant (lbs)	Grade A per Acre (lbs)	Unmkt per plant (lbs)	Unmkt per acre (lbs)	Marketable per acre (lbs)	Total weight (lbs/Acre)	Grade A (%)
Tom. 870	67.3a	121767.6	13.5ab	24447.5	121767.6a	146215.1a	68.4a
Ovata	57.2a	103431.9	7.0c	12693.9	103431.9a	116125.8a	71.1a
Roma	51.7a	93558.9	7.8c	14104.4	93558.9a	107663.2a	65.4a
Supra	48.9a	88387.3	7.0c	12693.9	88387.3a	101081.2a	73.6a
RX200196	48.1a	86976.8	14.3a	25858.0	86976.8a	112364.7a	54.2a
BOS8033	46.8a	84626.1	7.0c	12693.9	84626.1a	97320.0a	78.9a
Veronica	46.0a	83215.7	6.2c	11283.5	83215.7a	94969.3a	76.7a
Tuscany	45.2a	81805.2	8.3bc	15044.6	81805.2a	96849.9a	77.1a
Marina	44.5a	80394.8	6.2c	11283.5	80394.8a	91678.3a	72.1a
Ensalada	43.4a	78514.2	5.5c	9873.0	78984.4a	88387.3a	72.4a
Vitta Gold	42.6a	77103.8	5.5c	9873.0	77103.8a	86976.8a	76.1a
HA3307	42.4a	76633.6	6.2c	11283.5	78044.1a	88387.3a	78.8a
Daiquiri	38.7a	70051.6	8.6bc	15514.8	70051.6a	85566.4a	73.8a
TropiMech	37.7a	68171.0	8.1bc	14574.5	68171.0a	82745.5a	65.0a
Tom. 574	37.4a	67700.9	14.3a	25858.0	67700.9a	93558.9a	54.8a
Classica	32.8a	59238.3	4.2c	7522.3	59238.3a	66760.6a	66.4a
BOS8147	31.7a	57357.7	7.0c	12693.9	57357.7a	70051.6a	61.1a
Significance	ns		**		ns	ns	ns

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 10. **Early yields, pooled for both locations** (ca. 3 months harvest) Pooled data from experiments conducted at the UH Waimanalo and Poamoho experiment stations to determine mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of several specialty Tomato Cultivars, Summer/Fall 2000 (14 harvests).

Cultivar	Grade A per plant (lbs)	Grade A per Acre (lbs)	Unmkt per plant (lbs)	Unmkt per acre (lbs)	Marketable per acre (lbs)	Total weight (lbs/Acre)	Grade A (%)
Tom. 870	88.2a	159487.7	9.2abc	16708.2	159994.0a	176702.2a	78.9a
Ovata	77.3ab	139741.6	4.5c	8101.0	140247.9ab	148855.1a	82.3a
Tom. 574	68.3ab	123539.6	11.5ab	20758.7	124046.0ab	144298.4a	72.5a
RX200196	64.1ab	115945.0	13.2a	23796.6	115945.0ab	139741.6a	69.3a
Supra	58.8ab	106325.1	7.0bc	12657.8	106831.4ab	119489.2a	78.4a
Roma	58.2ab	105312.5	9.2abc	16708.2	105818.8ab	122527.0a	76.5a
HA3307	56.3ab	101768.3	5.3c	9619.9	101768.3ab	111388.2a	83.5a
Ensalada	55.7ab	100755.7	6.2bc	11138.8	101262.0ab	112400.8a	80.3a
Veronica	54.6ab	98730.5	6.2bc	11138.8	99743.1ab	111388.2a	81.3a
Daiquiri	54.3ab	98224.1	10.1abc	18227.2	98730.5ab	117463.9a	79.0a
Marina	54.0ab	97717.8	7.3bc	13164.1	97717.8ab	110881.9a	79.9a
Vitta Gold	53.8ab	97211.5	5.6c	10126.2	98224.1ab	108350.3a	82.4a
Tuscany	51.5ab	93161.0	8.7abc	15695.6	93667.4ab	108856.7a	78.3a
BOS8033	49.8ab	90123.2	5.9bc	10632.5	91135.8ab	101768.3a	82.8a
Classica	49.6ab	89616.9	4.8c	8607.3	90629.5ab	99236.8a	79.9a
TropiMech	44.0b	79490.7	8.4abc	15189.3	80503.3b	95692.6a	77.8a
BOS8147	42.8b	77465.4	9.8abc	17720.9	78478.1b	96198.9a	73.7a

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 11. **Total Yields, Waimanalo.** Mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of Tomato Cultivars Grown at the UH **Waimanalo** Experiment Station (sea-level), Summer/Fall 2000 (29 harvests).

Cultivar	Grade A per plant (lbs)	Grade A per Acre (lbs)	Unmkt per plant (lbs)	Unmkt per acre (lbs)	Marketable per acre (lbs)	Total weight (lbs/Acre)	Grade A (%)
Tom. 870	214.0a	387001.7	13.3ab	24122.1	388050.5a	413221.3a	87.8a
Tom. 574	195.5ab	353440.5	15.1ab	27268.4	355538.1ab	382806.5ab	81.6a
Ovata	187.9ab	339806.3	8.7b	15731.8	340855.1ab	357635.7abc	87.2a
Ensalada	154.9abc	280025.6	11.6ab	20975.7	281074.4abc	303098.9a-d	84.8a
RX200196	138.0bc	249610.8	19.7a	35658.7	249610.8bc	285269.5a-d	79.8a
Daiquiri	136.9bc	247513.3	16.2ab	29366.0	249610.8bc	278976.8bcd	80.0
HA3307	136.3bc	246464.5	7.5bab	13634.2	247513.3bc	261147.5bcd	88.5a
Veronica	135.1bc	244366.9	12.2ab	22024.5	246464.5bc	268489.0bcd	84.0a
Marina	133.4bc	241220.6	13.3ab	24122.1	242269.3bc	266391.4bcd	78.3a
Classica	134.6bc	243318.1	10.4ab	18878.1	245415.7bc	265342.6bcd	87.7a
Supra	125.9bc	227586.3	11.6ab	20975.7	228635.1bc	249610.8bcd	80.9a
Roma	124.7bc	225488.8	14.5ab	26219.6	226537.6bc	252757.2bcd	80.5a
BOS8033	121.1c	175147.1	10.9b	15731.8	177244.7c	192976.4d	84.4a
Vitta Gold	112.5c	203464.3	11.0ab	19926.9	205561.9c	225488.8cd	84.8a
BOS8147	101.5c	183537.4	16.2ab	29366.0	184586.2c	215000.9d	82.0a
Tuscany	100.3c	181439.8	13.3ab	24122.1	182488.6c	206610.6d	83.0a
TropiMech	99.8c	180391.0	12.2ab	22024.5	182488.6c	204513.1d	83.4a

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 12. **Total yields, Poamoho.** Mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of several specialty Tomato Cultivars Grown at the UH **Poamoho** Experiment Station (800 ft elevation), Summer/Fall 2000 (31 harvests).

Cultivar	Grade A per plant (lbs)	Grade A per Acre (lbs)	Unmkt per plant (lbs)	Unmkt per acre (lbs)	Marketable per acre (lbs)	Total weight (lbs/Acre)	Grade A (%)
Tom. 870	127.1ab	229828.6	40.9a	73993.6	229828.6ab	303822.2a	69.2abc
Ovata	142.6a	257856.5	17.4bc	31391.2	257856.5a	289247.7ab	81.0a
Marina	96.9bc	140139.4	17.1c	24664.5	139018.3bc	164803.9c	68.5abc
Roma	94.9abc	171530.6	16.1bc	29149.0	171530.6abc	200679.6bc	65.9abc
Tom. 574	91.1bc	164803.9	33.5a	60540.2	164803.9bc	225344.1abc	64.7abc
Veronica	86.8bc	156956.1	16.7bc	30270.1	158077.2bc	188347.3bc	71.0abc
Supra	84.9bc	153592.8	13.0c	23543.4	153592.8bc	177136.2c	68.8abc
Vitta Gold	74.4bc	134533.8	11.8c	21301.2	134533.8bc	156956.1c	74.2ab
Ensalada	73.2bc	132291.6	10.5c	19059.0	132291.6bc	151350.5c	70.3abc
RX200196	73.2bc	132291.6	23.6b	42602.4	132291.6bc	176015.1c	54.5c
BOS8033	85.3bc	123322.7	16.3c	23543.4	123322.7c	146866.1c	71.3ab
Tuscany	70.7c	127807.1	16.1bc	29149.0	127807.1c	156956.1c	67.0abc
HA3307	67.0c	121080.4	12.4c	22422.3	121080.4c	143502.7c	74.2ab
Daiquiri	65.1c	117717.1	14.3c	25785.6	117717.1c	143502.7c	69.9abc
TropiMech	57.7c	104263.7	13.6c	24664.5	104263.7c	128928.2c	63.1bc
Classica	53.9c	97537.0	9.3c	16816.7	97537.0c	114353.7c	65.9abc
BOS8147	49.6c	89689.2	13.0c	23543.4	89689.2c	114353.7c	60.5bc

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 13. Pooled data from experiments conducted at the UH Waimanalo and Poamoho experiment stations to determine mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of several specialty Tomato Cultivars, Summer/Fall 2000 (31 harvests).

Cultivar	Grade A per plant (lbs)	Grade A per Acre (lbs)	Unmkt per plant (lbs)	Unmkt per acre (lbs)	Marketable per acre (lbs)	Total weight (lbs/Acre)	Grade A (%)
Tom. 870	170.4a	308125.8	27.0a	48822.8	309210.8a	358033.5a	79.0abc
Ovata	165.0a	298361.3	13.2b	23868.9	299446.2a	323315.1a	84.0a
Tom. 574	142.8ab	258218.1	24.6a	44483.0	259303.1ab	303786.0ab	74.0abc
Ensalada	114.0bc	206140.5	11.4b	20614.1	207225.5bc	226754.6bc	78.3abc
Veronica	111.0bc	200715.8	14.4b	26038.8	201800.7bc	227839.5bc	78.4abc
Roma	109.8bc	198545.9	15.6b	28208.7	198545.9bc	226754.6bc	74.8abc
Supra	105.6bc	190951.2	12.6b	22784.0	190951.2bc	213735.2c	76.1abc
RX200196	105.6bc	190951.2	21.6b	39058.2	190951.2bc	230009.4bc	68.1c
Marina	105.0bc	189866.3	13.8a	24953.9	190951.2bc	215905.1c	74.9abc
BOS8033	102.8c	148638.2	13.5b	19529.1	149723.1c	169252.2c	78.8abc
HA3307	102.0bc	184441.5	10.2b	18444.2	184441.5bc	202885.7c	81.8ab
Daiquiri	101.4bc	183356.6	15.0b	27123.8	183356.6bc	211565.3c	76.6abc
Classica	94.2c	170337.2	9.6b	17359.2	171422.1c	189866.3c	76.5abc
Vitta Gold	93.6c	169252.2	11.4b	20614.1	170337.2c	190951.2c	79.9ab
Tuscany	85.2c	154062.9	14.4b	26038.8	155147.9c	181186.7c	75.5abc
TropiMech	78.6c	142128.5	12.6b	22784.0	143213.4c	165997.4c	74.3abc
BOS8147	75.6c	136703.7	15.0b	27123.8	137788.7c	164912.4c	72.0bc

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 14. Overall ranking, based on per plant Grade A yields for all experiments with respect to locations, and for early and total yield determinations.

Cultivar	Ranking, Overall Best Grade A yields across experiments.
No. 870	1 (best round type)
Ovata	2 (best Roma, 2 nd overall)
No. 574	3
RX200196	4
Supra	5
Ensalada	6
Roma	7
Veronica	8
Marina	9
HA3307	10
Daiquiri	11
BOS8033	12
Vitta Gold	13
Tuscany	14
Classica	15
TropiMech	16
BOS8147	17

Note: Varieties were ranked from No. 1 to 17th for each separate experiment for both early (3 months) and total (7 months) yields. Ranking values for each evaluation were then added, and varieties were given a final overall rank

Table 15. Growth evaluation of several tomato varieties grown at the UH Poamoho and Waimanalo experiment stations, 2000. Mean values from evaluations conducted at 1 and 7 months after transplanting.

Cultivar	Height Canopy (cm)	Width Canopy (cm)	Vigor Index (10= best)	Disease Index (10=worst)	Fruit Index (10=best)	Overall Index (10=best)	Plant per plot	Fruit
FA-5744	115	94	9.2a	2.7	5	9.5	5	Round med, ind
Ovata	114	93	8.4abc	3.7	9	9.0	5	Roma, ind
No. 870	113	113	9.0a	2.7	7	9.5	5	Round
RX200196	108	122	8.8ab	3.0	5	8.5	5	large salad
Roma VF	107	107	7.2bcd	5.3	4	6.0	5	Roma
Veronica	92	108	7.2bcd	5.7	8	7.5	5	Roma, det
HA-3307	90	81	6.2d	6.7	5	5.5	5	Roma
Tuscany	90	96	6.7cd	6.0	6	6.0	5	Roma, ind.
Supra	89	105	6.8cd	6.3	4	6.5	5	Roma, det
Ensalada	88	107	6.8cd	5.3	6	6.5	5	Roma, det
Tropi Mech	86	98	6.4d	5.7	4	5.0	5	Round medium
Marina	84	93	6.8cd	6.0	6	6.5	4.75	Roma
Daiquiri	80	91	6.6cd	4.3	5	6.5	5	Roma
Classica	78	91	6.2d	6.7	7	6.0	5	Roma
BOS-8033	73	100	6.0d	7.3	7	6.0	4.75	Roma, det
BOS-8142	72	92	6.0d	6.7	5	5.0	4.75	Roma, det
Vitta Gold	70	100	6.0d	5.7	7	5.5	5	Yellow, R

Mean Values by location

Poamoho	82	102	6.4 (late)	5.6		6.5	4.8	
Waimanalo	71	97	6.7 (late)	5.1		7.0	5.0	

Note: Height values are means of 3 measurements. Width values are means of 2 measurements, one each in Poamoho and Waimanalo. Plant vigor and plant count values are means of 5 evaluations (2 per site at early and late growth stages). Disease index is average of 3 sampling dates. Fruit/flowering index values are from Poamoho sampling date of October 20 (6th month of weekly harvests).

Note on mean location values: Mean vigor values were similar for both locations (7.6 index value) for the first sampling date in mid April (6 weeks after transplanting). Mean canopy height and width values are for the first (April) sampling only.

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 16. Field notes concerning plant growth and fruiting of several specialty tomato varieties grown at the UH Poamoho and Waimanalo Experiment stations, March to November, 2000.

VARIETY	COMMENTS (GROWTH/UNIFORMITY)
BOS8033	SPRAWLING CANOPY, SEMI COMPACT; heavy fruiting 1 dead, nice roma fruit; sunburnt fruit
BOS8142	SMALL COMPACT (1 SMALL PLANT), 1 WEAK COMPACT GROWTH
CLASSICA	WEAK GROWTH COMPACT
DAIQUIRI	1 plant early BLIGHT, 1 DISEASED uniform growth
ENSALADA	COMPACT CANPOY
FA-5744	thick stem, IND, vigorous pl growth THICK STEMS, vigorous canopy, needs trellising looks good; nice round roma fruit medium and large; uniform growth
HA-3307	COMPACT GROWTH nice roma fruit
MARINA F1	LATE FLOWER, SMALL CANOPY, some diseased pls 1 dead (early blight), nice roma fruit - large; nice uniform growth
OVATA	IND, VINING, thick stem, vigorous growth, good consistent yields VINEY, fruit tastes good, nice small round romas nice dense canopy; good growth; nice fruit with blossom-end nipples
ROMA VF	NICE GROWTH, pls look good yellowing, ind., fruit is too soft (at sea-level, Waimanalo)
RX200196	NICE GROWTH, LATE FRUITING looks good, THICK STEMS
SUPRA	1 Plant is weak, early blight?, DISEASE VIRUS? early blight, nice long shaped fruit, easy to pick, uniform growth
No. 870	STRONG GROWTH, thick stem, pls look good some early blight, VINEY, late fruiting, nice small fruits
TROPIMECH	1 WEAK HEAVY FLOWERS
TUSCANY	HEAVY FRUIT nice large fruit, looks good
VERONICA	GOOD GROWTH, vigorous growth nice roma fruit
VITAGOLD	NICE COMPACT bush GROWTH, NICE CLUSTERS early blight, compact bushy canopy; nice orange fruit

Pest Notes: Plants affected by pinworm (May) included Ensalada, Daiquiri, Vitta Gold, BOS 8033, Marina, and Veronica. Fruit attacked by rats (May) included BOS 8147, Tuscany, No. 870, HA-3307. Other pests throughout growth cycle included whiteflies, mites, thrips.

Blossom-end rot. Plants susceptible to blossom-end rot (BER) included Tropimech, BOS-8142, Tuscany (severe), Marina (severe), and BOS-8033. Varieties with lower BER incidence included Ovata, FA-574, HA-3307, and No. 870. BER occurred in July, but was fixed after the field was limed. Ovata was apparently affected by TMV in Waimanalo (low elevation).

Poamoho Tomato Cultivar Trial

Table 17. Skin firmness of several specialty tomato varieties grown at the Poamoho Experiment Station, 2000.

Cultivar	Skin firmness	Skin firmness	Skin firmness	N
	At harvest (km/cm ²)	1 week later (km/cm ²)	Average (km/cm ²)	
Daiquiri	2.42a	2.21ab	2.21a	27
BOS-81472	2.37a	2.15ab	2.20a	27
Tropi Mech	2.37a	2.23a	2.28a	18
Ensalada	2.17ab	1.99bc	2.03bc	27
Tuscany	2.08bc	1.87dc	1.94dc	18
Vitta Gold	2.04bc	1.92dc	1.94dc	27
Veronica	2.04bc	1.85dc	1.89cde	27
Classica	1.92bcd	2.20ab	2.14ab	27
Marina	1.89b-e	1.89dc	1.89cde	33
Supra	1.87cde	1.74de	1.77def	27
BOS-8033	1.79c-f	1.77cde	1.78def	33
HA-3307	1.75d-g	1.90dc	1.87cde	27
No. 870	1.71d-g	1.77cde	1.75ef	27
RX-200196	1.62e-g	1.62ef	1.62f	27
Ovata	1.58fg	1.78cde	1.74ef	27
FA-574	1.50g	1.44f	1.45g	27
Roma	1.12h	1.08g	1.09h	45
<hr/>				
Average at harvest, 5/26	1.84		1.84	354
<hr/>				
Average 1 week after harvest	1.72		1.72	117
<hr/>				

Note: N= number of samples for each variety. Numbers in bold indicate the best values (relatively). Also see Table 6.

Fruit firmness was determined with a penetrometer to evaluate the strength needed (in km/cm²) to break the skin. Measurements were taken on ripened fruit at harvest (5/26), and again 7 days later. Measurements were taken on 3 fruits per sampling date, and 3 measurements were taken per fruit. Because for these measurement we used a narrower tip (compared to data on Table 6), the firmer fruit in this data set, as expected, offered more resistance. You can tell this because firmness values were greater on the day of harvest (5/26, bottom of table) compared to values obtained a week later on the 'older' fruit.

Statistics: Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Table 18. Soluble solids (estimate of percent sugars), and fruit growth parameters of several specialty tomato varieties grown at the Poamoho and Waimanalo Experiment Stations, Spring & Summer 1999.

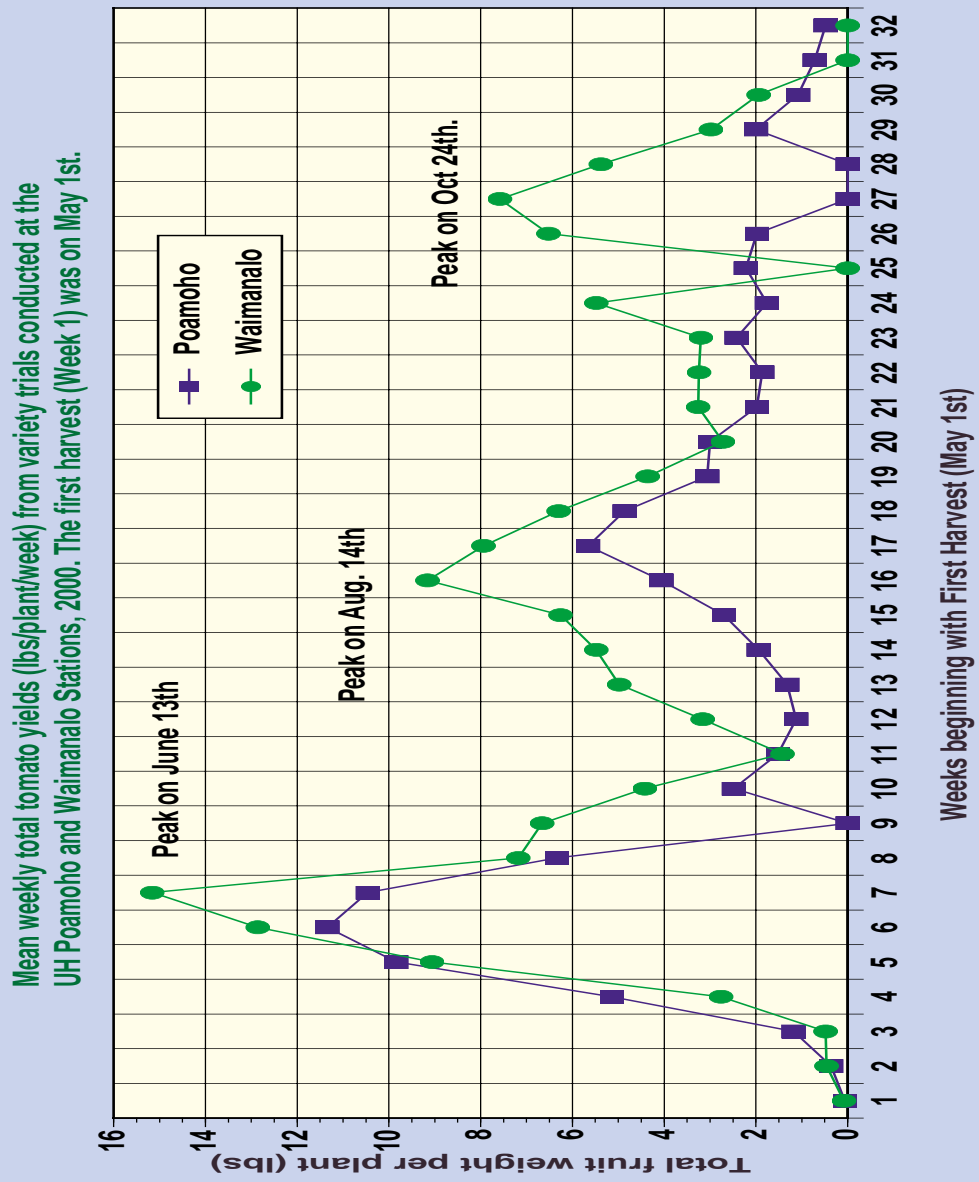
Cultivar	Sugars		N	Fruit ^z		Fruit ^z diameter (mm)
	At harvest (%)	1 week later (%)		Weight (gr)	height (mm)	
Ensalada	5.17a	5.00a	9	132d (4.6)	68bc (2.7)	63d (2.5)
Roma	5.00ab	5.00a	15	81i (2.9)	62def (2.4)	50i (2.0)
FA-574	5.00ab	5.00a	9	203b (7.2)	63def (2.5)	78b (3.1)
Ovata	4.33b	4.78a-d	9	104e-h (3.7)	61def (2.4)	56e-h (2.2)
Classica	5.00a	4.89abc	9	123def (4.3)	81a (3.2)	35j (1.4)
HA-3307	4.83abc	4.50ab	6	111e-h (3.9)	68bc (2.7)	55ghf (2.2)
Veronica	4.83abc	4.00b	9	91hi (3.2)	66bcd (2.6)	50i (2.0)
Vitta Gold	4.83abc	5.00a	9	4.89abc	59gf (2.3)	57efg (2.2)
Supra	4.75a-d	4.00b	9	4.50c-f	69b (2.7)	52hi (2.0)
Tuscany	4.75a-d	NA	6	4.75a-d	65b-e (2.6)	68c (2.7)
Daiquiri	4.67a-d	4.00b	9	4.44def	69b (2.7)	56.5efg(2.2)
Marina	4.59bcd	NA	11	4.59b-f	65b-e (.26)	53ghi (2.1)
BOS-81472	4.50bcd	4.33b	9	4.44c-f	65b-e (2.6)	60de (2.4)
RX200196	4.50bcd	4.00b	9	230a (8.1)	63def (2.5)	84a(3.3)
Tropi Mech	4.33cd	NA	6	4.33d-f	61def (2.4)	62.5d (2.5)
No. 870	4.33cd	4.00b	9	4.22gf	56h (2.2)	70c (2.8)
BOS-8033	4.27d	NA	11	4.27e-g	64cde (2.5)	60de (2.4)
Average sugars (%) at Harvest			4.71a	118		
Average sugars (%) 1 week later			4.47b	39		

^zNote on Fruit dimensions: Average fruit weight, in ounces is provided in parenthesis. Fruit length and diameter in inches is provided in parentheses.

Note: Fruit soluble solid levels were determined with a refractometer.

Statistics: Values in bold indicate the relative better values. Values with similar letters within columns are statistically similar according to Duncan's New multiple range test (P<0.05).

Figure 1.



Tomato Variety Descriptions

Abigail (Hazera) see FA-870.

Balboa F1 (Harris Moran); determinate, *Fruit:* Large, typical of eastern type determinate plants; smooth; *Growth:* med. Resistance: R-VF1F2TS&A, ST, ASC

Big Rainbow (Cook's Garden Seeds); Indeterminate, *Fruit:* Large, rib shouldered golden/yellow fruits have a ruby red mandala radiating from the blossom end and streaks of red/orange running through the flesh; subject to cracks and catfacing. Excellent taste.

Bingo F1 (Harris Moran); Determinate; *Fruit:* Medium large, consistently high yields of smooth fruit; thick walled fruit with moderate crack resistant; round, globe; *Resistance:* VF1F2NTS&A

Black Krim (Cook's Garden) Indeterminate. *Fruit:* Specialty, large slicing type. Dark charcoal color. Consistent color both inside and out. It is a beef stake size, and tastes delicious.

Bonsai F1 (Harris Moran) *Fruit:* Cherry type

BOS 20/20 (Orsetti seed co.) Determinate medium-large plant habit. *Fruit:* Roma type. Fruit shape is square round. Firm fruit. Produces high yields of quality fruit with high color, solids, and viscosity. Multi-use variety for peel/dice, and has excellent quality for paste. Solids rating is high. Pedicel is jointed. VFFN resistance.

BOS 8033 (Siegers Seed Company (Orsetti Seed Company)) Determinate. Roma type. An early multiple use type hybrid processing tomato. Medium size vine with good cover. Fruit has exceptional interior red color, with square round shape. Solids rating is medium. Pedicel is jointed. Uniform green shoulder. VFFNBsp resistance.

BOS 8147 F1 (Siegers Seed Company (Orsetti Seed Company)); *Fruit:* Roma type *Growth:* determinate. A medium large hybrid with dark green vine, producing large, firm, good colored fruit. Good yields and holding capacity. Best suited for dicing and product use. Pedicel is jointed. Fruit is square round shaped. Solids are medium/high. Uniform green shoulder. VFFN resistance.

Bright Pearl (Known You Seed). Indeterminate, *Fruit:* Roma/saladette, oblong, uniform red, resists cracking; harvest 90 d after sowing; suitable for long-distance shipping; *Growth:* F1, early vigorous, and set fruit very well

Burpee Bunch (Burpee); indeterminate *Fruit:* Medium type

Capita F1 (De Ruiter Seeds). Indeterminate. Fruit is non-greenback, round, 70-90 gr. Plant habit is stretched, open plant, rather vigorous growth, upright leaves and good canopy. Suitable for all heated crops, esp. high wire. Long cluster system. Uniform coloring and very glossy. Good keeping quality. Very high total yield. Resistance to TmC5VF2NfrWi.

Casa del Sol (Sun Seeds) *Fruit:* Roma type, sets fruit well at temperatures over 92F, Recommended for the High Plains region of Texas. V,F,N;

Cherokee Purple- see Purple Cherokee

Cherrytime (FMX 173) F1 (Harris Moran) *Fruit:* Cherry type

Chiquita (Known You Seed); *Fruit:* Cherry type

Cortez (6237) (Sun Seeds) *Fruit:* Roma type

Daiquiri (V104)(Siegers Seed/Vilmorin) *Fruit:* Roma type. Hybrid. Determinate. Very early, short internodes, fruit set is early and very productive. Fruit is long oval shape, very uniform, uniform green turning evenly to a brilliant, consistent red. Excellent flavor and internal quality. Production early and concentrated. Ability to set under hot/cold temperatures. Tolerance= VFN, Sm.

Dania F1 (Hungnong Seed) *Fruit:* Roma/saladette type, 60-80 gr. Determinate. An elongated cylindrical shaped fruit that has a concentrated set with uniformity of fruit size and shape. Vigorous plants provide long-term harvest and high yield. It will be suitable for the saladette market as well as Roma market. Fruits are firm. Disease rating= Tm, V, F1, C, S.

Dona F1 628 Hybrid (Cook's Garden) Indeterminate. *Fruit:* Large, favorite of french home gardeners; *Growth:* grown in a cage or trained to a teepee; it provides a big harvest of slightly flattened red tomatoes .

EG-104 (Evergrow Seed Co.). Roma. Processing and fresh use. Early maturing, semi-determinate, light green leaves, long fruit shape, white shoulder, 3 locules, wt. 110 gr, uniform fruits, high lycopene, high yield, resistant to Fusarium and Verticillium, suitable for whole fruit, paste and processing.

Ensalada (Burpee); Determinate; *Fruit:* Roma, best tasting saladette tomato; fruit have firm, thick walls, easy to peel for processing; high yielding plants; growth: deep square; 3" x 2 1/2"; disease: resistant to VF(1&2)N

Tomato descriptions, cont.

- FA-574 (Adelita) (Hazera).** Indeterminate. Large (beef) size fruit. Compact plant with very big fruit for the early autumn. Medium maturity. Compact growth, fruit weight is 200-300 gr., deep oblate to globe fruit shape, Green shoulders, very good firmness, extended shelflife. Adelita is a compact plant, usually grown for 10-15 clusters. Resistance= V, F1, F2, Tm (tobacco mosaic virus).
- FA-870. (Abigail) (Hazera)** Medium size round fruit. High quality fruit for cluster or single. New variety with extended shelf-life. It is a strong plant which has slightly larger fruit than Daniela and Gabriella. The fruit is earlier, deeper red in color and better tasting. A late-maturing tomato with strong vigor. Suited for fall and early spring plantings and provides high yields of 120-180 gr tomatoes, with a long shelf-life.
- Flavor More 215 (ESL) F1 (Harris Moran)** *Fruit:* Large, green ripe fruit are firm; stems easily; good foliage cover; fruit ripens evenly when harvested pink or gassed; *Growth:* med-large plants; globe fruit shape. Green ripe fruit are firm. Stems easily. Good foliage cover. Fruit ripens evenly when harvested pink or gassed. Long shelf-life. Disease resistance= VFF.
- Flavor More 223 (ESL) F1 (Siegers/Harris Moran)** Determinate growth. *Fruit:* med-large fruit globe fruit shape, max fruit size 250 grams; leaf type is flat; extremely smooth; firm fruit; good yields; good cover. It has very small stems and style scars and is a high yielder. Long shelf-life. R-VF1F2, R-CRACK
- Fourth of July (Burpee);** Indeterminate *Fruit:* full sized and full flavored on the forth of july. twice as many fruits on first pick as other varieties; round, bright red;
- Frontier F1 (Hungnong Seed);** Determinate, Roma, early, very firm elongated red tomato, high yielding; easy to harvest; compact vines *Growth:* stretched open plant rather vigorous growth; upright leaves and good canopy; all heated crops especially high wire. Produces a heavy crop of elongated square fruit averaging 75-95 gr. The firm, deep red colored fruit is suitable both for fresh market and processing. The plants can be grown as a bush or on stakes. Disease rating: V, F1, C, S, N.
- Gibraltar 505 (Siegers Seed Company (United Genetics))** *Fruit:* Roma type *Growth:* determinate
- Golden Gem (Known You Seed);** Indeterminate; Cherry type, large, round to slightly globe-shaped, stunning orange skin color, sweet with sugar content of up to 10%, firm against cracking, 16 gr; *Growth:* tall with dark green, slightly curled lvs, harvest about 75 d after sowing, v prolific, 16-70 fruits per cluster, double-stem pruning can produce over 500 ft / pl;
- Goldy F1 (De Ruiter Seeds)** *Fruit:* Grape type / Yellow cherry type.
- Grace (Known You Seed);** Indeterminate. *Fruit:* pink color, vigorous with good foliage covering; fruit is globe to deep globed shaped with pink skin when mature; very firm weighing 250-300 g; can be harvested 100 days after sowing; very desirable and marketable variety because of its color.
- Green Grape (Cook's Garden Seeds)** Determinate. *Fruit:* large cherry tomato; Green-yellow fruit, Excellent flavor, one inch fruits are profusely borne on vigorous plants that respond well to caging and are more resistant to blight than other determinate types.
- Green Zebra (Cook's Garden)** *Fruit:* Large, good flavor; rich golden green at maturity with forest green stripes; vines are vigorous but not that tall; *Growth:* semi-determinate, small 2-3". Average fruit size in Florida trials was 3.6 oz and 2.5 in diameter. Susceptible to verticillium wilt.
- HA-3307 (Hazera). Roma.** Semi-determinate type.
- Halley 3155 (Orsetti Seed co.)** *Fruit:* Roma type *Growth:* determinate. A jointed hybrid tomato with long, square-round fruit and very good wall thickness and internal color. Firm fruit has uniform colored shoulders. Can be used for dicing or whole peel in addition to other product uses. The vine color and set are manageable and desirable. The variety holds well in the field and produces excellent yields. Solids rating is high. Fruit shape is square round. Uniform green shoulder. VFF resistance.
- Italian Gold (Burpee)** Determinate; *Fruit:* Roma, great for canning; makes unique tomato sauce; golden, roma shaped; resistant to: VF;
- Jackpot F1 (Harris Moran)** *Fruit:* good flavor; good heat set tolerance, med-large, firm *Growth:* plants are med sized. *Disease resistance:* R-VF1F2, R-CRACK.
- Kewalo (Univ. Hawaii).** Determinate. Round med-size. Resistance: Bacterial Wilt (below 27C), F1, N, Stm, red spider mites, tol to low P soils.
- King Kong (Siegers Seed Company (Known You Seed));** *Fruit:* heat and sunburn tolerant; *Growth:* semi determinate; globe shape; disease: bacterial wilt resistant to MV-1 resistant

Tomato descriptions, cont.

- Marina (STM 480B) (Sakata).** Medium to large vined determinate hybrid. Elongated Roma/saladette type, rectangular, blocky fruit, may be harvested mature green or red. Produces large, very smooth fruits, which are slightly longer than a typical Rio Grande type. Fruit set is excellent, yielding a bountiful crop. It produces an excellent saladette type tomato under a variety of conditions. Good yielder in fall Florida Trials. Average fruit size in Florida was 2.8 oz. It has V1, A, F1, F2, N, gray leaf spot, and bacterial speck resistance.
- N-52 (Univ. Hawaii).** Indeterminate. Fruit around 200-230 gr, deep oblate, green shoulder. Resistance to Fusarium wilt, stemphylium, and root knot nematode. Resistant to heat.
- No. 870 (see FA-870).**
- Ovata RZ F1 (73-17). (Rick Zwann).** Roma 'plug and egg' type. Egg-shaped tomato. Non-greenback fruits. Fruits weigh approx. 80 gr. Normal vigor, for fresh and processing markets. Resistant to TmC5VF2N.
- Plum Dandy F1 (Harris Moran)** Roma type. Medium to large determinate plants. *Fruit:* high yields; good firmness and flavor; excellent pack out, elongated, rectangular, blocky, defect-free fruit for fresh-market production. Normal shelf-life.; *Growth:* vine is dark green. Average fruit size in Florida trials was 3.1 oz. When grown in hot, wet conditions, it does not set fruit well and is susceptible to bacterial spot. Recommended for winter and spring production in Florida. *Disease resistance:* VF1; M.R. early blight, and rain checking
- Precious (Known You Seed);** Indeterminate, *Fruit:* large, vigorous and prolific; each plant can produce up to 100 fruit; firm; uniform red color; very attractive; suitable for storage and shipping; *Growth:* egg shaped; e. disease: heat and tmv tolerant; resistant to fusarium wilt.
- Purple Cherokee (Cook's Garden);** Semi-determinate *Fruit:* Large, fine deep pink purple variety has fewer problems, and more flavor than other purples; fruit is 3-5 inches across. Average fruit size in Florida trials was 10.3 oz and 3.5 in. diameter. Its late blight reading index in the Florida trials was also low compared to other Heirloom varieties.
- Red Year (Evergrow Seed Co.)** *Fruit:* Cherry type *Growth:* determinate. Early maturing, short plant, small green leaves, fruit deep globe, green shoulder, wt. 15 gr., very firm good shipper, uniform fruit shape, heat tolerant, strong disease resistance., suitable for summer planting.
- Roma VF (Willhite)** *Fruit:* Roma type *Growth:* determinate. Italian pear type, used extensively for paste and pure processing. Fruit borne in large clusters. Skin is red, smooth and tough with a solid flesh. Fusarium tolerant.
- Roma 1 (Technisem) Determinate.** *Fruit:* Roma type. Open-pollinated. Vigorous. Long pear fruit shape. Fruit weight 55-65 gr. Uniform shoulder color. Medium firmness. Disease tolerance to Verticillium and Fusarium 1. Brix 5.2, pH 4.2, and good foliage cover.
- Ruby (Known You Seed);** Indeterminate, *Fruit:* cherry, oblong; dark red; high sugar content with special flavor.
- RX-200196 (PetoSeed), F1,** Provided by Dr. John Cho and Randall Hamasaki. Tomato Spotted Wilt Virus (TSWV) resistant, with rin gene for long shelf-life.
- SSC 44088 (Shamrock Seed Co.)** Hybrid. *Fruit:* Saladette tomato. Roma type
- SSC 44095 (Shamrock Seed Co.)** Hybrid. *Fruit:* Grape Tomato.
- SSC 44096 (Shamrock Seed Co.)** Hybrid. *Fruit:* Grape type.
- Ship Saint (Evergrow).** Cherry, indeterminate.
- Stallion F1 (Harris Moran)** *Fruit:* Roma type. Thick walls. Large vine, good cover. Very firm fruit or extended shipping potential. Large fruit for top yields. Vine is large with good cover. The fruit is very firm, large and has a square round shape. Disease rating= VFFN.
- Sugar Snack (Burpee);** Indeterminate. *Fruit:* ultra sweet cherry tomato; early harvest, bright red, 3/4" diameter; resistant to NT
- Supra F1 (Siegers Seed Company (Novartis/Rogers))** Determinate hybrid. Plum type, elongated Roma type. Rectangular, blocky pear fruit shape with uniform green shoulder. Vigorous; mid season; better sizing in later harvests; Performed well in fall Florida trials. Large fruit-size yields were the greatest in Florida (1996) for Supra, compared to other plum types. Average fruit size in Florida was 3.2 oz. resistant to F1,2, A, N, V1, gray leaf spot, and bacterial speck.

Tomato descriptions, cont.

Sweet Tangerine (Burpee); Determinate, *Fruit*: Large, golden, sweet, ripen early 68 days, *Growth*: plants set heavy crops even in hot weather, strong disease resistance.

Tigre F1 (Harris Moran) Determinate; *Fruit*: very firm; easy stemming fruit; elongated fruit with thick pericarp wall; very durable; Square round fruit shape. *Growth*: square; semi curly. Disease rating: VFF.

Tima (Technisem) *Fruit*: Roma type

Tirano F1 (Harris Moran) *Fruit*: Roma type. Early maturity. Medium, uniform shape fruit, with a square round shape. The plant is indeterminate with good cover. This is one of the earliest varieties in the indeterminate saladette type. Prolific yields of uniform shaped fruit. Normal shelf life. Disease rating: VF5.

Toro F1 (Harris Moran) *Fruit*: Roma, mid season maturity saladette type; firm fruit with good quality; widely adapted; *Growth*: square; round; *Diseases*: R-VF1F2

Tough Boy (Takii) Indeterminate type, *Fruit*: Roma. Extra early, vigorous, medium sized leaves, medium short internode. Fruit 220 gr. Pink, deep oblate fruit with green shoulder, 6 to 7 loculus, 6-7 fruits per cluster. Tough skin, very sweet, crack free, long shelf-life, good for long-distance shipping. Resistance to Verticillium, Fusarium 1, Nematode, Tm-1, stemphylium, and to heat.

Tropimech (Technisem) Determinate. *Fruit*: Medium type. Processing type for industry or fresh market. Very concentrated set. Medium large plant size. Fruit square with 2 to 3 lobes apple green, shoulder. 75-80 gr weight. Brix is 5.2%. Very well adapted to medium hot and humid season. Apple green shoulder color. Disease tolerance to Verticillium, Fusarium 1&2.

Tuscany (FMX 116N) F1 (Harris Moran) *Fruit*: Roma type

V104 F1 (Siegers Seed Company (Vilmorin)) *Fruit*: Roma type *Growth*: determinate

Veronica (Sakata). Tall determinate hybrid. Elongated, smooth, Roma/Saladette type fruit. Uniform ripening. Develops a large plant yielding an excellent fruit set with uniform shoulders and very smooth fruit. Has performed well where there is a high virus pressure. Good performance in all production seasons. It was a good yielder in fall Florida Trials. Average fruit size in Florida was 2.8 oz. It has V1, F1, F2, A, N, gray leaf spot, and bacterial speck resistance.

Vitta Gold (Petoseed). Yellow round.

Viva Italia (Burpee) Determinate. *Fruit*: very sweet; high yield even in heat; red hybrid roma; *Disease*: resistant to VF5

DISEASE CODES:

A,Al: alternaria stem canker

Bsp, P= bacterial speck resistance

C5- resistant to cladosporium races ABCD and E.

F1: fusarium wilt (race 1)

F2: fusarium wilt (race 2)

V,Vt: verticillium wilt

T,TMV: Tobacco mosaic virus

St: stemphylium (grey leaf spot)

N,RN: root knot nematode

Wi- tolerant to silvering (chimaere).

Sources of information: Seed Catalogs; Harris Moran variety trial report/results for 1999; Univ. Florida Vegetarian; Univ. Florida Tomato Institute (1997); Trade Magazine vegetable variety trial articles (Florida Grower, Citrus & Veg., American Veg. Grower), and Mid Western Vegetable variety trial report for 1999 (Purdue Univ.).

Seed Companies

Asgrow Seed
P.O Box 5038
Salinas, CA 93915
Contact: Richard Kim
fax 831-675-3209
1-800-234-1056
<http://www.asgrow.com/>

Brinker Orsetti Seed Co. Inc.
(seed sold by Shamrock)
2301 Technology Pkwy., POB 2350
Hollister, CA 95024-2350
Contact: Stacy Carpenter
408-636-4822
fax 408-636-4814

The Cooks Garden
POB 535
Londonderry, VT 05148
802-824-3400
wholesale fax 1-800-845-4366
orders 800-457-9703
fax orders 800-457-9705
[www http://www.cooksgarden.com](http://www.cooksgarden.com)

W. Atlee Burpee & Co.
300 Park Avenue
Warminster, PA 18974
cust. serv. 215-674-4900 x. 215
800-999-8552
fax 1-215-674-8402/4170

Champion Seed, RE: Don Marshburn
(Wholesaler)
529 Mercury Lane
Brea, CA 92621
714-529-0702
fax 714-990-1280

DeRuitter Seeds, Inc. (Greenhouse)
POB 20228
Columbus, OH 43220
Contact: Rubby Cordoba
614-459-1498 (1-99)
fax 614-442-1716

Evergrow Seed Co. Ltd.
POB 393 Tainan 702
Taiwan
e-mail lho@ms8.hinet.net

Green Barn Seed Co. Inc.
(Wholesaler, sells seed for Sakata, Sunseeds,
Vilmorin, and others)
18855 Park Ave.
Wayzata, MN 55391
1-800-882-7552

Harris Moran Seed Co.
3503 W 15th Lane
Yuma, AZ 85364
Contact: Neil Poston
520-783-0343
fax 520-782-1671
www.harrismoran.com

Hazera Ltd.
745 Balboa St.
Grover Beach, CA 93433
805-473-3452
www.hazera.co.il

HungNong
See: Asgrow Seed

Known-you seed Co., Ltd.
ATTN-Miss Fang-Ching Hsueh, International
Dept.
26, Chung Cheng 2nd Road
Kaohsiung
Taiwan, ROC

Orsetti Seed Co. Inc.
(also see Shamrock, a wholesaler)
POB 2350
Hollister, CA 95024-2350
831-636-4822
fax 831-636-4814

Petoseed Co. Inc. (SEMINIS)
POB 4206
Saticoy, CA 93007-4206
Tel. 805-647-1188
fax 805-656-4818

Rijk Zwaan Export B.V.
POB 40 NL-2678 ZG
DeLier
Holland
tel 011-31-174-53-2300

Seed Companies, cont.

Sakata Seed America Inc.
(Sakata seed also sold by Shamrock,
Champion, Green Barn, and others).
POB 880, 18905 Serene Dr.
Morgan Hill, CA 95037-0880
408-778-7758
fax 1-800-356-7768
www.sakata.com
saisales@sakata.com

Shamrock Seed Co. Inc.
(Wholesaler for Orsetti & others)
3 Harris Pl.
Salinas, CA 93901
1-800-351-4443; 831-771-1500
FAX 831-771-1517
shamrock@montereybay.com

Siegers Seed Co.
(provides seed from Vilmorin, Ferry,
Rogers, Orsetti, etc)
8265 Felch St.
Zeeland, MI 49464-9503
800-962-4999
fax order to: fax 616-772-0333
www.siegers.com
e-mail: info@siegers.com

Sunseeds
Tel. 1-800-733-9505
www.sunseeds.com
See: Champion & Terra

Technisem
7, av. du Garigliano, ZAC des Gatines
91601 Savigny-Sur-Orge Cedex
France
technisem@wanadoo.fr

Takii
See Shamrock & Champion
Or call 831 443-4901
e-mail: takii@email.msn.com

Terra Seed Co.
1-800-950-2425

University of Hawaii (UH)
Contact: Richard Sakuoka
Tel.808-956-7890, fax. 808-956-2592

Willhite Seed Co.
P. O. Box 23
Poolville, TX 76487
Info: 817-599-8656
orders 1-800-828-1840
www.willhiteseed.com

Asian Vegetable and Development Center
(AVRDC),
(Note: contact AVRDC for seed samples of Bacterial
Wilt resistant tomato varieties, normally small to
medium-sized round tomatoes; several BW resistant
cherry types also available, esp. small fruited ones)
P.O. Box 42, Shanhua
Tainan 74199, Taiwan
avrdocbox@netra.avrdc.org.tw
<http://www.avrdc.org.tw>
