

Spring 2018 Tomato Trial Conducted at UGA Tifton

Conducted by:

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Production:

Location: Tifton, GA

Entries: 18 (2217 was a roma type analyzed separately) (Table 1).

Planting Date: Seeded on 6 Feb 2018, transplanted on 28 March 2018.

Plant spacing: 6' centers black TIF plastic mulch with 22" in-row spacing (3967 per acre population).

Plot size: 12 plants per plot with 4 replicates per variety arranged as a randomized complete block design.

Fumigation: Pic Chlor 60 applied in February when plastic laid.

Fertility: 500 lbs of 10-10-10 applied preplant under plastic. Weekly fertigrations of 7-0-7 at 10-15 lbs N acre for a total of 200 lbs/acre N. Irrigation applied at approximately 1-1.5 inch per week.

Data Collection:

Harvest: 4 harvests each. 12, 19, 25 June and 2 July, which were 76, 83, 89, and 96 days after transplant (DAT).

Grading: Tomatoes were harvested at the breaker or light pink stages and graded into USDA No. 1 grades. Extra Large: >2 24/32 inch, Large: 2.5 to 2 25/32 inch, Medium: 2 ¼ to 2 17/32 inch, small 2 1/8 to 2 9/32 inches. Culls: Blossom end rot, misshapen, sunburned or other defects

Yields are presented in (25 lb) boxes per acre. Data analysis: Data analyzed using SAS statistical software using the GLM procedure and Fisher's Least Significant Difference Test for mean separation.

Results

Yields and quality were excellent. Although disease ratings were anticipated only a small amount of TSWV was present in some non resistant varieties. Some tomato pith necrosis was apparent, but it occurred in a small number of plants in the trial and was not associated with a particular variety. Bacterial leaf spot was notable, but only after the final harvest on 2 July. The highest yielding variety was 2255, although this was not significantly different from seven of the highest yielding varieties. A large majority of the fruit were extra large (), with only Quincy, Grand Marshall, 42, B3096, and Rolute having more than 300 boxes per acre of large fruit. Medium fruit were a small portion of the total yield. Small fruit were graded but not included in the final yield estimates as they were a negligible portion of what was harvested. Culls fruit ranged from 5.4% to 10.3% for the red-round fruited

varieties. The majority of cull fruit occurred on the first harvest and the majority of those fruit were the result of blossom end rot. Nonetheless, blossom end rot levels were low overall this season. A roma selection, 2117 yielded exceptionally well and had very few culls. Fruit of this variety were graded into separate size classes. This selection had very large numbers of blemish-free fruit.

The yields from the first two harvests (12 and 19 June) were calculated (Table 3) to demonstrate potential earliness in varieties. SV7631, B3096, and 3040 had more than 20% of their fruit harvested in the first two picks. Cull rates of Everglade and SV4676 were highest in the first two picks, but a relatively small percentage of fruit was harvested in the first two picks and therefore overall cull rates for these varieties were fairly low. Early fruit yield overall was low, perhaps due to poor weather in late April and May. The yields on the final two harvests (25 June and 2 July) were exceptional. Harvests were terminated on 2 July to coincide with regional markets closing. However significant green fruit were still present in the field.

Variety	Company	Disease Package
Roadster	Sakata	TSWV, Aal, Fol 1-3, For, Va 1, Vd 1
SV7631	Seminis	TSWV, Aal, Fol, Sbl, Vd, Ma/Mi/Mj
Quincy	Seminis	TWSV, Aal, Fol 1-2, Sbl, Vd 1
Everglade	Seminis	TYLCV, Fol 1-3, For,
Dixie Red	Seminis	TSWV, Aal, Fol 1-3, Vd 1, Sbl, Ma/Mi/Mj
SV4676	Seminis	N/A
SV2310	Seminis	N/A
2255	Sakata	TSWV, TYLCV, Fol 1-2
2263	Sakata	TSWV, TYLCV, Fol 1-2, For
Camaro	Sakata	TYLCV, Aal, Fol 1-3, Va 1, Vd 1
Grand Marshall	Sakata	TWLCV, Fol 1-2
2117	Sakata	N/A
Red Bounty	Harris Moran	TSWV, Fol 1,2, Ma/Mi/Mj , Sbl, Vd 1
42	Enza Zaden	N/A
Skyway	Enza Zaden	TSWV, TYLCV, Fol 0-2, Va, Vd, Ma/Mi/Mj
3040	Bejo	TSWV, TYLCV, Fol 1-2.
Resolute	Bejo	TSWV, Fol 1-2, Ma/Mi/Mj, Vd 1
B3096	Bejo	TSWV, For, Fol 1-2

Disease codes: TSWV- tomato spotted wilt virus, TYLCV- tomato yellow leaf curl virus, Aal – alternaria stem canker, Fol – fusarium wilt, For – fusarium crown and root rot, Sbl – gray leaf spot, Vd – verticillium wilt, Ma/Mi/Mj- southern root knot nematode. N/A = not available.

Table 2. Total season long yield for tomato varieties grown in Spring 2018 in Tifton, GA										
Variety	(boxes/ac) ^z								(%) ^y	
	Total		X Large		Large		Med		Cull	
2255	2,750	a ^a	2610	a	130	gh	10	de	5.9	c
Roadster	2,680	ab	2350	abc	310	b-e	20	cde	6.5	bc
Red Bounty	2,600	abc	2280	a-d	290	b-f	30	b-e	6.1	bc
2263	2,590	abc	2520	ab	70	h	5	e	5.6	c
Camaro	2,550	a-d	2280	a-d	230	d-g	30	b-e	10.3	a
SV7631	2,470	a-d	2200	b-e	250	c-g	20	cde	7.7	abc
42	2,440	a-d	2030	c-f	380	bc	20	cde	6.1	c
Quincy	2,430	a-d	1760	fg	560	a	100	a	5.4	c
Grand Marshall	2,360	b-e	1920	d-g	370	bcd	50	bc	8.3	abc
3040	2,350	b-e	2190	b-e	150	fgh	5	e	5.7	c
Skyway	2,320	b-e	2200	b-e	110	gh	10	de	8.3	abc
Everglade	2,310	cde	2140	b-f	150	fgh	20	de	8.4	abc
Dixie Red	2,300	cde	2080	c-f	190	e-h	30	b-e	5.4	c
Resolute	2,210	de	1840	efg	330	b-e	30	b-e	7.1	abc
B3096	2,010	ef	1560	gh	390	b	60	b	6.0	c
SV4676	1,790	fg	1610	gh	160	fgh	10	de	8.7	abc
SV2310	1,560	g	1260	g	250	c-g	40	bcd	9.8	ab
	(boxes/ac)								(%)	
	Total		1.25 inch dia.		1.5 inch dia.		1.75 inch dia.		Cull	
2117 ^w	2640		310		810		1540		1.0	

^zBased on a 25-lb box.

^ySize categories according to USDA grade standards for fresh market tomatoes. Percent based on number of fruit picked in each category.

^xValues within the same column followed the same letter(s) are not significantly different according to Fisher's Protected Least Significant Difference Test ($P < 0.05$)

^wRoma type, not compared to red round types. Sizes classed based on shoulder diameter (1.25, 1.5 and 1.75 inches)

Table 3. Yield for the *first two* harvests for tomato varieties grown in Spring 2018 in Tifton, GA including the percentage of the total yield accounted for with the first two harvests. Statistical analysis not performed.

Variety	(%)	(boxes/ac) ^z				(%) ^y
	Percent of total for season	Total ^x	X Large	Large	Med	Cull
SV7631	20.7	510	450	60	10	14.7
B3040	20.3	480	410	60	3	6.3
Camaro	18.5	470	420	50	5	19.4
B3096	23.3	470	340	110	20	7.0
2255	13.7	380	350	30	2	12.6
2263	14.5	380	340	30	1	16.9
Dixie Red	16.2	370	330	50	1	13.1
Resolute	14.9	330	260	60	10	18.5
Roadster	12.3	330	270	60	10	18.0
Quincy	13.4	330	190	110	20	16.8
Red Bounty	12.0	310	220	80	10	17.3
42	12.3	300	200	90	10	21.2
Everglade	12.9	300	240	50	4	27.4
SV4676	13.0	230	180	50	2	26.1
SV2310	13.8	220	140	70	10	20.1
Grand Marshall	8.3	200	110	70	10	18.6
Skyway	8.0	190	150	30	3	26.1
2117^w						
	(%)	(boxes/ac) ^z				(%)
	Percent of total for season	Total	1.25 inch dia.	1.5 inch dia.	1.75 inch dia.	Cull
2117 ^w	19.5	515	297	159	60	3.8

^zBased on a 25-lb box.

^ySize categories according to USDA grade standards for fresh market tomatoes. Percent based on number of fruit picked in each category.

^xTotal may differ from sum of each category due to rounding to nearest 10 boxes per acre

^wRoma type, not compared to red round types. Sizes classed based on shoulder diameter (1.25, 1.5 and 1.75 inches).