

Spring 2019 Tomato Trial Conducted at UGA Tifton

Conducted by:
Andre da Silva
2360 Rainwater Rd.
Dept. of Horticulture
Tifton, GA 31793
adasilva@uga.edu

Production:

Location: Tifton, GA

Entries: 14 (Table 1)

Planting Date: Seeded on 14 Feb 2019, transplanted on 25 March 2019.

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 January when plastic laid.

Fertility: 500 lbs of 10-10-10 applied pre-plant under plastic. Weekly fertigations of 7-0-7 at 12 lbs N acre for a total of 200 lbs/acre N. Irrigation applied at approximately 1-1.5 inch per week.

Data Collection:

Harvest: fruits were harvest at 78, 84, 90, and 95 days after transplant (DAT).

Grading: Tomatoes were harvested at the breaker or light pink stages and graded into USDA No. 1 grades. Extra Large: $>2 \frac{24}{32}$ inch, Large: 2.5 to $2 \frac{25}{32}$ inch, Medium: $2 \frac{1}{4}$ to $2 \frac{17}{32}$ inch, Small $2 \frac{1}{8}$ to $2 \frac{9}{32}$ inches.

Culls: Blossom end rot, misshapen, sunburned or other defects were harvested but not evaluated on total yield.

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

Table 1. Variety list.

Variety	Company	Disease Package
SV7631	Seminis	TSWV, Aal, Fol, Sbl, Vd, Ma/Mi/Mj
SV0466	Seminis	TYLCV, Fol 1-3, For,
Myrtle	Seminis	N/A
SV4576	Seminis	N/A
SV2310	Seminis	N/A
Red Bounty	Harris Moran	TSWV, Fol 1,2, Ma/Mi/Mj , Sbl, Vd 1
Skyway	Enza Zaden	TSWV, TYLCV, Fol 0-2, Va, Vd, Ma/Mi/Mj
SunFresh	Enza Zaden	N/A
Suwanee	Enza Zaden	N/A
B3275	Bejo	N/A
Resolute	Bejo	TSWV, Fol 1-2, Ma/Mi/Mj, Vd 1
Loretta	Bejo	N/A
Emmylou	Bejo	N/A
Mt. Gem	Bejo	N/A

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.

Results

Yields and quality were very high in the Spring 2019 variety trial. Few plants presented TSWV, which was not significant to impact the trial, while Bacterial leaf spot was notable.

The highest yielding varieties were Myrtle with 2661 box/acre and Red Bounty with 2535 box/acre, however, they were not significantly different from five other highest yielding varieties (Table 2).

Tomato fruits were mostly harvested and graded as extra-large, in which only Emmylou and Loretta presented more than 30% of large sized fruits. Medium fruit were the smallest portion of the total yield, while small fruit and cull fruits were graded but not included in the final yield estimates as they were a negligible portion of what was harvested.

Yields from the first two harvests were calculated to demonstrate potential earliness in varieties. SV2310, B3275, and SV4576 had the highest yield on the first two picks, however they had no significant different form Myrtle, SV7631, SV0466, Mt. Gem, Resolute, and Sunfresh. Overall, late harvests were higher than the first two pick, perhaps due to an increase on temperatures that creates optimum conditions for flowering in late April and May.

Table 2. Total yield and yield from first two harvest in box/acre, and overall percentage of extra-large (X-Large), Large, and Medium tomato fruits in the spring 2019.

Variety	Total yield	Yield on first two harvest	X-Large	Large	Medium
	25 lb. box / acre		%		
Myrtle	2661 a†	512 ab	71	24	5
Red Bounty	2535 a	293 bc	57	24	19
Emmylou	2416 ab	317 bc	34	36	30
Loretta	2384 abc	323 bc	58	35	7
7631	2300 abcd	445 ab	56	24	20
*0466	2215 abcde	485 ab	60	30	10
Skyway	2181 abcde	273 c	67	23	10
Mt. Gem	1935 bcde	413 ab	56	26	18
4576	1886 bcde	577 a	63	30	7
Suwanee	1818 cde	354 bc	72	20	8
3275	1758 de	564 a	72	21	6
2310	1728 de	563 a	75	22	3
Resolute	1679 e	488 ab	82	16	2
Sunfresh	1646 e	471 ab	85	14	1

† Values 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)

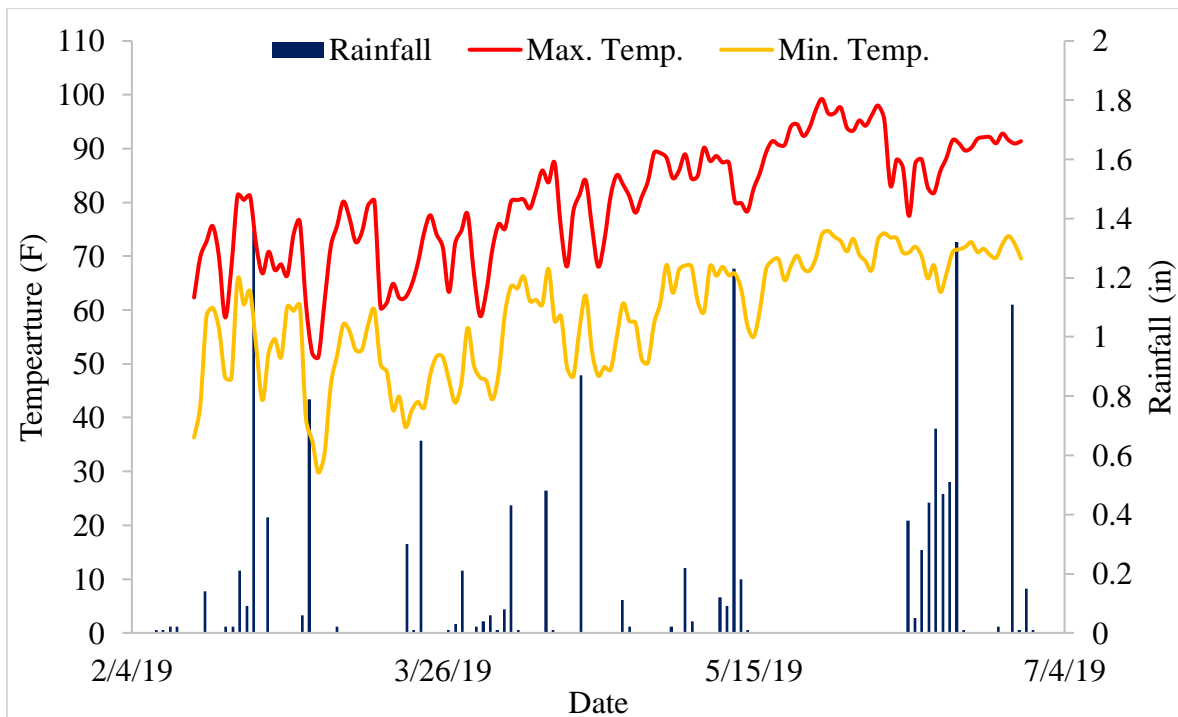


Figure 1. Weather conditions during the Spring tomato season 2019.