Trial Report: Slicing Cucumber Variety Evaluation Spring 2014

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Methods

Location: Tifton, GA
Planting Date: Initial planting date 2-April 2014; Replanted due to stand loss (*Pseudomonas*) on 1-May 2014. Transplants were approximately 16 days old.
Plant Spacing: 6' centers plastic mulch, 8" in-row spacing (10,890 per acre population)
Plot size: 12 plants per plot with 4 foot alleys between adjacent plots
Plastic mulch: Black, TIF plastic
Fumigation: Pic-Chlor 60 applied in February when plastic was laid
Fertility: 1000 lbs/acre 5-10-15 preplant and 7-0-7 weekly at 12 lbs N/acre per week starting 1 week after planting. Total for the season was 146 lbs N/acre.
Herbicide: Between rows- Dual II Magnum + Curbit (Sonalan)
Pest Control: Weekly fungicide sprays according to UGA recommendations (+ copper), Imidacloprid at planting, Venom and Agrimek applied during growth.
Bees: 3 honeybee hives located approximately 500 feet from planting.
Pollenizer: Poinsett 76 utilized between every 3rd and 4th plant as a pollinizer.
Stand Count conducted: 19-May 2014
Harvest dates: 2, 8, 10, 15, 19, 23-June 2014. Initial 3 harvests had a high percentage of super selects and selects, while last 3 harvests had a very high percentage of culls. Nearly all culls appeared curved/misshapen regardless of variety.

Fruit graded into superselect, select, and cull counted and weighed. Length to width ratio and shape recorded (harvest no. 3 only for shape). Color was recorded but no differences were apparent, all had a similar deep-dark green color.

Climate conditions: warm and dry, with isolated rain events after 1-May planting (Appendix A).

Table 1. Entries included in the Spring 2014 trial.

US Agriseeds	Seminis	Syngenta
USACX10429	Impact	Diomede
USACX10428	SV8592CS	
Superior	SV4220CS	
Cobra	SV4719CS	
	SV3462CS	

Results

Early harvests had a low percentage of cull fruit, while later (15, 19, 23 – June) had high cull percentages and would not likely have been harvested by a commercial grower. Yield data presented for all harvests in *24-count boxes per acre*.

Table 2. Yields and quality measurements for 10 varieties of cucumber grown in Tifton, Spring 2014.

Variety	Total Marketable Yield[z,y]		Super Select		Select		Length:Width		Shape[x]	
SV4719CS	1590	a	940	a	650	a	3.3:1	bc	4.0	b
SV4220CS	1460	ab	730	b	730	a	3.6:1	ab	3.0	ab
USACX10428	1360	ab	590	bc	780	a	3.9:1	a	3.8	ab
SV8592CS	1260	b	550	bc	710	a	3.8:1	ab	4.8	b
Diomede	1230	b	650	bc	580	a	3.9:1	a	4.3	b
USACX10429	1230	b	550	bc	680	a	3.8:1	ab	3.8	ab
SV3462CS	1220	b	570	bc	660	a	3:1	c	4.3	b
Superior	1210	b	600	bc	610	a	4:1	a	3.3	ab
Impact	1170	b	670	bc	500	a	3.7:1	ab	2.0	a
Cobra	1150	b	500	c	650	a	3.5:1	ab	3.3	ab

[z]Due to rounding and accounting for significant digits, total yield may not be the exact summation of Super Select and Select yields.
[y]Yield calculated in 24-count boxes per acre.
[x]Shape calculated on a 1-9 scale with 1 = perfectly straight and ideal, 5 = market average, 9 = curved, completely unmarketable. Shape based on entire harvest.

The greatest total marketable and yield of Super Select fruit was found in SV4719CS. Although numerically different there were no statistical differences between the other 9 varieties which were trialed for total marketable yield. There were no significant differences in yield of Select fruit among any of the varieties. Length the width ratio was recorded throughout harvests. Though not statistically significant the length to width ratio decreased slightly over time. Superior had the highest length to width ratio (4:1), while SV3462CS had the lowest at 3:1. Shape was recorded during the third harvest. Impact had the most uniform shape, while SV8592CS had the least uniform. Nonetheless, all varieties tested would have had a shape that was marketable (5 or less) across the entire 3rd harvest. Because of the high cull rates and misshapen fruit late in the harvest period those varieties which produced a large proportion of yield in the first or second harvest would have had a greater marketable yield (Figure 1-3).

Figure 1: Yield of Super Select Fruit

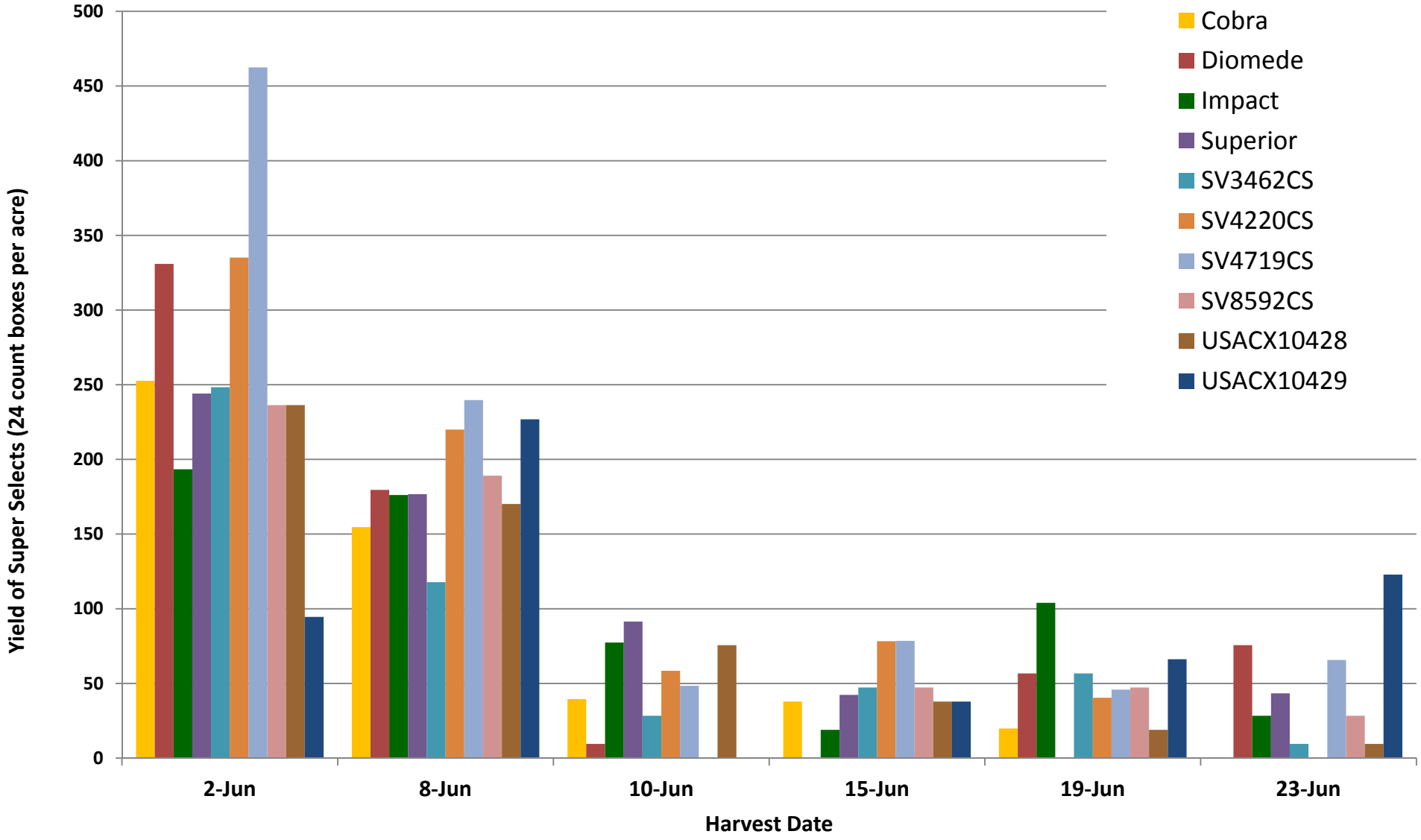


Figure 2: Yield of Select Fruit

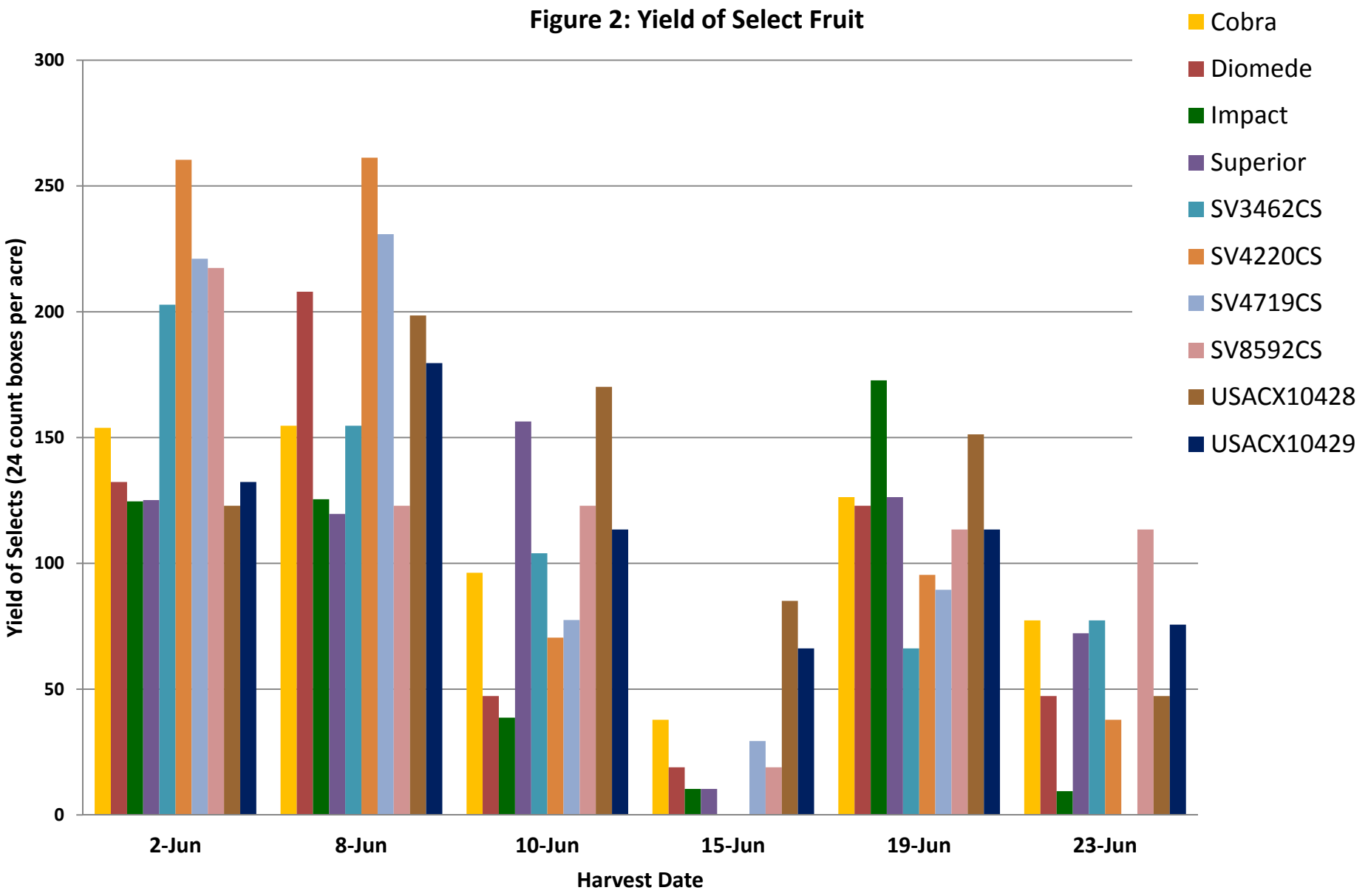
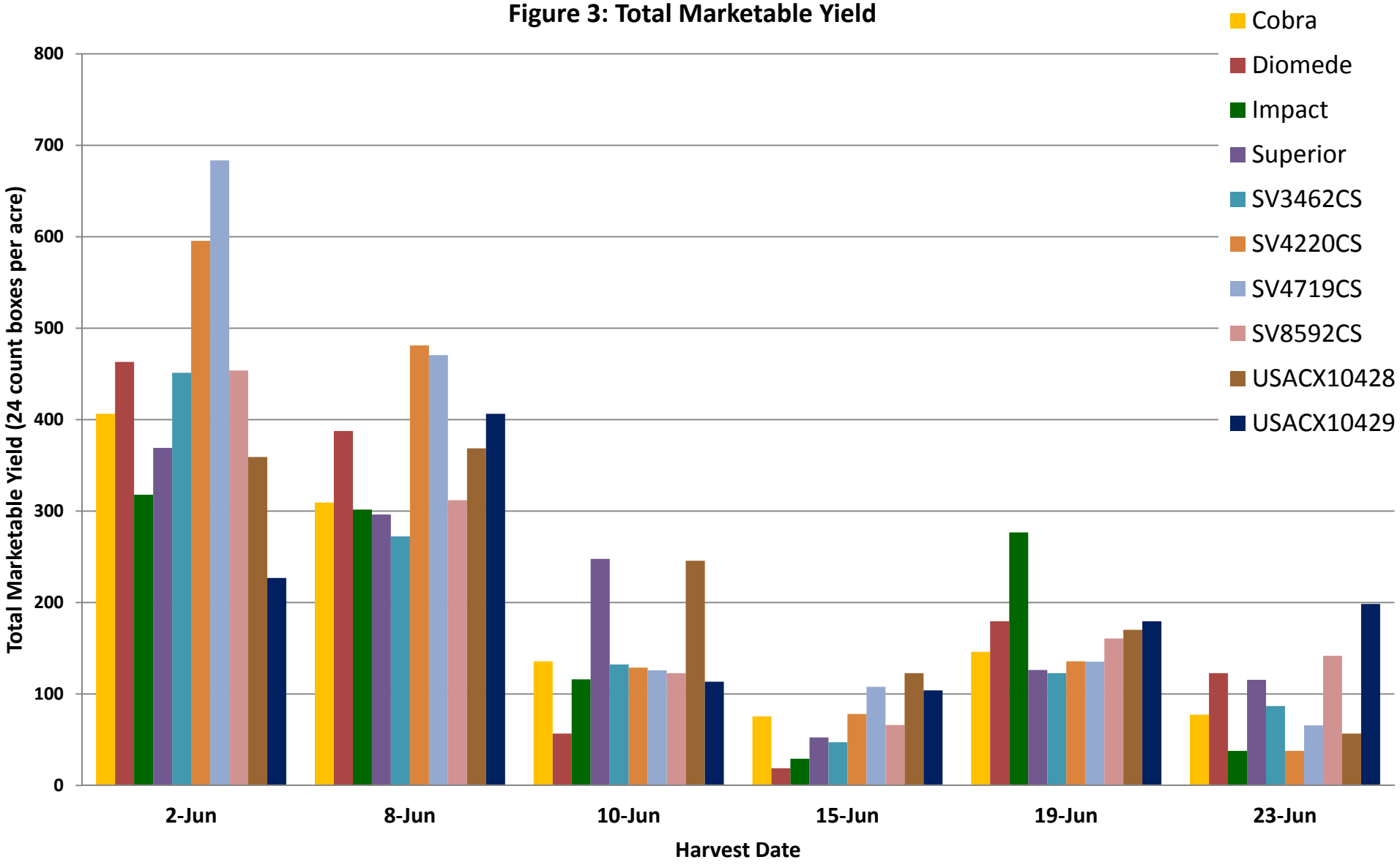


Figure 3: Total Marketable Yield



Appendix A: Weather conditions for Tifton, GA research site.

Date	Max Temp.	Min. Temp.	Rainfall (in.)
May 1, 2014	65.5	57.0	0.36
May 2, 2014	67.1	56.1	0.01
May 3, 2014	74.7	54.7	0.00
May 4, 2014	84.0	55.9	0.00
May 5, 2014	87.4	59.5	0.00
May 6, 2014	84.6	60.8	0.00
May 7, 2014	86.7	58.8	0.00
May 8, 2014	86.5	64.4	0.00
May 9, 2014	84.2	67.5	0.00
May 10, 2014	83.8	67.1	0.50
May 11, 2014	87.6	67.6	1.21
May 12, 2014	87.1	66.6	0.00
May 13, 2014	86.4	65.1	0.00
May 14, 2014	86.0	67.1	3.22
May 15, 2014	70.9	54.3	2.08
May 16, 2014	74.7	48.9	0.00
May 17, 2014	78.6	50.2	0.00
May 18, 2014	82.8	57.7	0.00
May 19, 2014	80.4	59.2	0.00
May 20, 2014	83.1	61.0	0.00
May 21, 2014	85.8	63.0	0.00
May 22, 2014	87.8	65.1	0.00
May 23, 2014	90.1	67.8	0.00
May 24, 2014	88.9	68.2	0.00
May 25, 2014	91.8	68.2	0.00
May 26, 2014	87.6	64.9	0.00
May 27, 2014	84.6	66.7	0.00
May 28, 2014	88.2	69.1	0.08
May 29, 2014	87.8	67.8	0.00
May 30, 2014	88.3	67.8	0.94
May 31, 2014	88.0	68.5	0.01
Jun 1, 2014	80.4	68.9	0.02
Jun 2, 2014	80.6	67.6	0.00
Jun 3, 2014	83.1	68.2	0.00
Jun 4, 2014	88.2	65.5	0.00
Jun 5, 2014	89.1	70.5	0.00
Jun 6, 2014	91.8	68.5	0.43
Jun 7, 2014	85.6	66.6	0.02
Jun 8, 2014	89.4	69.3	0.02
Jun 9, 2014	89.8	69.8	0.00
Jun 10, 2014	89.4	69.3	0.61
Jun 11, 2014	86.2	69.6	0.01
Jun 12, 2014	86.9	70.9	0.00
Jun 13, 2014	85.5	68.4	0.00
Jun 14, 2014	88.0	68.2	0.35
Jun 15, 2014	91.0	69.8	0.10
Jun 16, 2014	90.7	70.7	0.17
Jun 17, 2014	90.9	69.3	0.00
Jun 18, 2014	91.8	70.5	0.00
Jun 19, 2014	92.3	70.9	0.00
Jun 20, 2014	92.3	70.5	0.00
Jun 21, 2014	93.0	70.9	0.23
Jun 22, 2014	89.6	68.7	0.24
Jun 23, 2014	87.4	69.3	0.00