

**UNIVERSITY OF DELAWARE**



**SUNFLOWER FOR CUT FLOWERS  
VARIETY TRIAL RESULTS  
2010**

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## Table of Contents

<b>Introduction.....</b>	<b>1</b>
<b>Materials and Methods.....</b>	<b>1</b>
<b>Results .....</b>	<b>3</b>
<b>Acknowledgements .....</b>	<b>3</b>
<b>Table 1. 2010 Sunflower Variety Trial II: Stand Counts and Percent Germination at 12/13 Days After Planting.....</b>	<b>3</b>
<b>Table 2. 2010 Sunflower Variety Trial I: Varieties by Number of Marketable Stems Per 100 ft of Row.....</b>	<b>4</b>
<b>Table 3. 2010 Sunflower Variety Trial II: Varieties by Number of Marketable Stems Per 100 ft of Row.....</b>	<b>4</b>
<b>Table 4. 2010 Sunflower Variety Trial I: Varieties by Height in Meters .....</b>	<b>5</b>
<b>Table 5. 2010 Sunflower Variety Trial II: Varieties by Height in Meters.....</b>	<b>5</b>
<b>Table 6. 2010 Sunflower Variety Trial I: Varieties by Disc Diameter in Centimeters.....</b>	<b>6</b>
<b>Table 7. 2010 Sunflower Variety Trial II: Varieties by Disc Diameter in Centimeters .....</b>	<b>6</b>
<b>Table 8. 2010 Sunflower Variety Trial I: Varieties by Flower Diameter in Centimeters.....</b>	<b>7</b>
<b>Table 9. 2010 Sunflower Variety Trial II: Varieties by Flower Diameter in Centimeters ....</b>	<b>7</b>
<b>Table 10. 2010 Sunflower Variety Trial I: Varieties by Stem Diameter in Centimeters .....</b>	<b>8</b>
<b>Table 11. 2010 Sunflower Variety Trial II: Varieties by Stem Diameter in Centimeters.....</b>	<b>8</b>
<b>Table 12. 2010 Sunflower Variety Trial II: Varieties by Number of Leaves Stripped .....</b>	<b>9</b>
<b>Table 13. 2010 Sunflower Variety Trial II: Varieties by Number of Leaves Stripped .....</b>	<b>9</b>
<b>Table 14. 2010 Sunflower Variety Trial II: Varieties by Number of Leaves Left .....</b>	<b>10</b>
<b>Table 15. 2010 Sunflower Variety Trial II: Varieties by Number of Leaves Left .....</b>	<b>10</b>
<b>Table 16: 2010 Sunflower Variety Trial I: Percent of Total Harvested on Each Harvest Date.....</b>	<b>11</b>
<b>Table 17: 2010 Sunflower Variety Trial II: Percent of Total Harvested on Each Harvest Date.....</b>	<b>12</b>
<b>APPENDIX A: Photographs of Varieties in the 2010 Sunflower for Cut Flowers Variety Trial .....</b>	<b>13</b>
<b>APPENDIX B: Weather Summary for the 2010 Sunflower Trials .....</b>	<b>22</b>

# 2010 University of Delaware Sunflower for Cut Flowers Variety Trial

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## Introduction

The 2010 Sunflower Trial included 12 varieties entered by American Takii and two check varieties. The purpose of this trial was to evaluate sunflower (*Helianthus annuus*) varieties for cut flower production in Delaware. A list of the trialed varieties is below.

Variety	Company
Sunrich Gold	American Takii
Sunrich Orange	American Takii
Sunrich Lime	American Takii
Sunrich Lemon	American Takii
Sunrich Orange Summer	American Takii
Sunrich Lemon Summer	American Takii
Buttercream	American Takii
Orange Mahogany Bicolor	American Takii
Orange Sun	American Takii
Summer Breeze	American Takii
Solar Power	American Takii
Full Sun Improved	American Takii
Sunbright Supreme	check variety
Procut Orange	check variety

## Materials and Methods

### Location

Field 6A at the University of Delaware Research and Education Center Farm, Georgetown, DE.

### Cultural Practices

Field was fertilized according to soil test results. Beds were shaped and black plastic mulch and drip irrigation were laid on 7' centers.

Experimental plots were one row (7 ft) wide and 15 ft. long. Two rows of sunflowers were seeded into each mulched bed, with one row on either side of the drip tape. In-row spacing was 4" and there were 12" between the rows on the bed. A total of 90 seeds were planted per plot. The plastic mulched beds on the outer edge of the field were planted with black oilseed sunflower and served as unharvested border rows.

Trials were planted on two occasions earlier trial was planted on June 3 & 4, 2010 and the later trial was planted on July 13 & 14, 2010. Plots were arranged in a randomized complete block design and each trial contained four replications.

An application of Gramoxone 2 pt/A was made with a hooded sprayer on May 28, 2010, a few days before the first trial was planted. An application of Roundup Wathermax 2 pt/A was made over top of the previously laid plastic mulch on July 2, 2010 before the second trial was planted. Talstar 8 fl oz/A was applied to the second trial on August 24, 2010 to control sunflower moth.

### ***Data Collection***

Marketable flowers were harvested from one row of each plot, two to three times per week. Marketable flowers were cut with 24" of stem. The number of marketable flowers was recorded and the following data was collected for five fully open flowers from each plot: plant height, disc diameter, flower diameter and stem diameter. Leaves were stripped to within 4 inches of the flower and the number of leaves stripped and the number of leaves left on the stem were recorded.

Emergence in the later planted trial was poor for some plots and stand counts for one row of each plot were taken on July 26, 2010 (12/13 days after planting).

### **Results**

Stands in the June-planted trial (Trial I) were excellent and stand counts were not taken. In the July-planted trial (Trial II) there were significant differences in stand count between the varieties. The varieties 'Full Sun Improved', 'Buttercream', 'Solar Power', and 'Summer Breeze' had the highest stand counts. 'Sunrich Orange Summer' and 'Orange Sun' had the lowest stand counts (Table 1). Varietal differences in heat tolerance probably account for the variation in stands and those varieties that had less than 50% germination rates are probably ill-suited for summer plantings on black plastic mulch.

In Trial I the varieties that produced the highest number of marketable stems were 'Procut Orange', 'Full Sun Improved', 'Solar Power', 'Summer Breeze', 'Sunrich Gold', 'Buttercream', and 'Sunbright Supreme' (Table 2). There was not a significant difference in yield between these seven varieties in Trial I. In Trial II the varieties that produced the highest number of marketable stems were 'Buttercream' and 'Full Sun Improved' (Table 3). Significant differences in yield between the varieties in Trial II resulted primarily from the vast differences in germination and stand.

Characteristics of the varieties trialed, including plant height, disc diameter, flower diameter, stem diameter, number of leaves stripped and number of leaves left, are reported in Tables 4 -15. There were significant differences between the varieties for all of these traits.

'Buttercream', 'Orange Sun' and 'Orange Mahogany Bicolor' tended to produce multiple flowers per stem. The other varieties produced single flowers. 'Buttercream' had thinner stems and had a tendency to droop after it was cut. It also had a different flower appearance with a smaller disc and longer petals.

‘Orange Mahogany Bicolor’ produced flowers with variable colors. Most had dark red centers and yellow petal tips, as pictured in Appendix A. However, some flowers were all red and some had little red at all. ‘Orange Sun’ also had a variable flower appearance. The two most common types observed are pictured in Appendix A.

The earliest varieties in Trial I were ‘Orange Mahogany Bicolor’, ‘Buttercream’, and ‘Procut Orange’, (Table 16). In this trial the first substantial harvest was 46 DAP. The same varieties were also the earliest in Trial II, with the first substantial harvest 47 DAP (Table 17)

**Photographs of the varieties included in the trial are in Appendix A.**

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American Takii for participation in the trial.

**Table 1. 2010 Sunflower Variety Trial II: Stand Counts and Percent Germination at 12/13 Days After Planting**

Variety	Stand Count	% Germination
Full Sun Improved	37.3 a	82.8
Buttercream	34.0 ab	75.6
Solar Power	31.8 abc	70.6
Summer Breeze	30.0 abcd	66.7
Sunrich Gold	27.8 bcd	61.7
Orange Mahogany Bicolor	25.3 bcd	56.1
Sunbright Supreme	25.0 bcde	55.6
Procut Orange	24.5 cdef	54.4
Sunrich Lime	21.0 def	46.7
Sunrich Orange	15.8 efg	35.0
Sunrich Lemon	15.8 efg	35.0
Sunrich Lemon Summer	15.3 fg	33.9
Sunrich Orange Summer	9.5 gh	21.1
Orange Sun	4.5 h	10.0
<i>p-value</i>	<i>&lt;0.0001</i>	
<b>LSD</b>	<b>9.3389</b>	

**Table 2. 2010 Sunflower Variety Trial I: Varieties by Number of Marketable Stems Per 100 ft of Row\***

<b>Variety</b>	<b># Marketable Stems per 100 ft of Row*</b>
Procut Orange	460 a
Full Sun Improved	457 a
Solar Power	453 ab
Summer Breeze	440 ab
Sunrich Gold	410 abc
Buttercream	407 abc
Sunbright Supreme	380 abcd
Orange Mahogany Bicolor	357 bcd
Sunrich Orange Summer	340 cd
Sunrich Lemon	317 cd
Sunrich Orange	307 de
Sunrich Lime	300 de
Sunrich Lemon Summer	290 de
Orange Sun	217 e
<i>p-value</i>	<b>&lt;0.0001</b>
<b>LSD</b>	<b>96.61</b>

**Table 3. 2010 Sunflower Variety Trial II: Varieties by Number of Marketable Stems Per 100 ft of Row\***

<b>Variety</b>	<b># Marketable Stems per 100 ft of Row*</b>
Buttercream	413 a
Full Sun Improved	377 ab
Solar Power	303 bc
Sunrich Gold	277 bcd
Summer Breeze	270 cd
Sunbright Supreme	267 cd
Orange Mahogany Bicolor	237 cde
Procut Orange	230 cde
Sunrich Lemon	193 def
Sunrich Lime	187 def
Sunrich Orange Summer	147 ef
Sunrich Orange	147 ef
Sunrich Lemon Summer	117 fg
Orange Sun	40 g
<i>p-value</i>	<b>&lt;0.0001</b>
<b>LSD</b>	<b>104.01</b>

✚ \*Yields for double rows on a single mulched bed with a 4" in-row spacing.

**Table 4. 2010 Sunflower Variety Trial I: Varieties by Height in Meters**

<b>Variety</b>	<b>Plant Height (meters)</b>
Summer Breeze	1.79 a
Full Sun Improved	1.67 b
Sunbright Supreme	1.65 b
Sunrich Orange	1.65 b
Solar Power	1.63 b
Orange Sun	1.62 b
Sunrich Gold	1.52 c
Sunrich Lime	1.51 c
Sunrich Lemon	1.49 c
Sunrich Orange Summer	1.41 d
Buttercream	1.39 de
Sunrich Lemon Summer	1.38 def
Procut Orange	1.33 ef
Orange Mahogany Bicolor	1.31 f
<i>p-value</i>	<i>&lt;0.0001</i>
<b>LSD</b>	<b>0.0676</b>

**Table 5. 2010 Sunflower Variety Trial II: Varieties by Height in Meters**

<b>Variety</b>	<b>Plant Height (meters)</b>
Full Sun Improved	1.65 a
Summer Breeze	1.57 a
Solar Power	1.53 ab
Sunbright Supreme	1.42 bc
Sunrich Gold	1.33 cd
Orange Mahogany Bicolor	1.29 cd
Sunrich Orange	1.27 d
Buttercream	1.23 de
Sunrich Lime	1.22 de
Sunrich Orange Summer	1.22 de
Sunrich Lemon	1.19 de
Sunrich Lemon Summer	1.10 e
Procut Orange	1.08 e
<i>p-value</i>	<i>&lt;0.0001</i>
<b>LSD</b>	<b>0.148</b>

**Table 6. 2010 Sunflower Variety Trial I: Varieties by Disc Diameter in Centimeters**

<b>Variety</b>	<b>Disc Diameter (cm)</b>
Sunrich Orange	11.1 a
Sunrich Lemon	10.8 ab
Sunrich Gold	9.6 bc
Summer Breeze	9.5 cd
Sunrich Orange Summer	9.3 cde
Sunbright Supreme	9.3 cdef
Full Sun Improved	9.0 cdefg
Procut Orange	8.8 cdefg
Orange Mahogany Bicolor	8.3 defgh
Sunrich Lemon Summer	8.2 efgh
Sunrich Lime	8.1 fgh
Solar Power	8.0 gh
Orange Sun	7.5 h
Buttercream	6.2 i
<i>p-value</i>	<i>&lt;0.0001</i>
<b>LSD</b>	<b>1.2377</b>

**Table 7. 2010 Sunflower Variety Trial II: Varieties by Disc Diameter in Centimeters**

<b>Variety</b>	<b>Disc Diameter (cm)</b>
Sunrich Orange Summer	10.1 a
Sunrich Lemon Summer	9.1 ab
Sunbright Supreme	9.0 abc
Sunrich Lime	9.0 bc
Sunrich Gold	8.9 bcd
Full Sun Improved	8.8 bcd
Procut Orange	8.7 bcd
Summer Breeze	8.7 bcd
Sunrich Orange	8.7 bcd
Sunrich Lemon	8.4 bcd
Orange Mahogany Bicolor	8.0 cd
Solar Power	7.8 d
Buttercream	5.0 e
<i>p-value</i>	<i>&lt;0.0001</i>
<b>LSD</b>	<b>1.1234</b>



**Table 8. 2010 Sunflower Variety Trial I: Varieties by Flower Diameter in Centimeters**

<b>Variety</b>	<b>Flower Diameter (cm)</b>	
Sunrich Orange	18.7	a
Sunrich Lemon	17.5	ab
Summer Breeze	17.1	abc
Orange Mahogany Bicolor	17.1	bc
Sunrich Gold	16.3	bcd
Sunbright Supreme	16.3	bcd
Full Sun Improved	16.2	bcd
Sunrich Orange Summer	15.8	cde
Procut Orange	14.9	def
Solar Power	14.9	def
Orange Sun	14.9	def
Sunrich Lemon Summer	14.2	ef
Buttercream	14.1	f
Sunrich Lime	14.0	f
<i>p-value</i>	<b>&lt;0.0001</b>	
<b>LSD</b>	<b>1.6073</b>	

**Table 9. 2010 Sunflower Variety Trial II: Varieties by Flower Diameter in Centimeters**

<b>Variety</b>	<b>Flower Diameter (cm)</b>
Sunrich Orange Summer	19.0 a
Sunrich Orange	17.7 ab
Sunrich Lemon Summer	17.5 abc
Sunrich Gold	17.3 bcd
Summer Breeze	17.2 bcd
Sunbright Supreme	17.1 bcd
Sunrich Lemon	16.9 bcd
Sunrich Lime	16.7 bcd
Full Sun Improved	16.3 bcd
Orange Mahogany Bicolor	16.1 bcd
Procut Orange	16.0 cd
Solar Power	15.7 d
Buttercream	13.1 e
<i>p-value</i>	<b>&lt;0.0001</b>
<b>LSD</b>	<b>1.6258</b>

**Table 10. 2010 Sunflower Variety Trial I: Varieties by Stem Diameter in Centimeters**

<b>Variety</b>	<b>Stem Diameter (cm)</b>
Orange Sun	1.4 a
Solar Power	1.4 ab
Procut Orange	1.3 ab
Orange Mahogany Bicolor	1.3 abc
Sunrich Orange	1.3 bcd
Summer Breeze	1.3 bcd
Sunrich Lime	1.2 bcd
Sunrich Lemon Summer	1.2 cde
Sunrich Orange Summer	1.2 de
Sunrich Gold	1.2 de
Full Sun Improved	1.2 de
Sunbright Supreme	1.1 de
Sunrich Lemon	1.1 ef
Buttercream	1.0 f
<i>p-value</i>	<b>&lt;0.0001</b>
<b>LSD</b>	<b>0.1455</b>

**Table 11. 2010 Sunflower Variety Trial II: Varieties by Stem Diameter in Centimeters**

<b>Variety</b>	<b>Stem Diameter (cm)</b>
Procut Orange	1.7 a
Sunrich Orange Summer	1.4 b
Orange Mahogany Bicolor	1.4 b
Full Sun Improved	1.4 b
Sunrich Gold	1.4 bc
Sunbright Supreme	1.4 bc
Sunrich Lemon Summer	1.4 bc
Sunrich Orange	1.3 bc
Sunrich Lime	1.3 bc
Sunrich Lemon	1.3 bc
Summer Breeze	1.3 bc
Solar Power	1.2 cd
Buttercream	1.1 d
<i>p-value</i>	<b>&lt;0.0001</b>
<b>LSD</b>	<b>0.1747</b>

**Table 12. 2010 Sunflower Variety Trial II: Varieties by Number of Leaves Stripped**

<b>Variety</b>	<b>Number of Leaves Stripped</b>
Sunrich Orange	16.1 a
Sunrich Orange Summer	15.0 b
Sunrich Lemon	14.4 bc
Summer Breeze	14.3 bc
Orange Sun	14.0 bc
Sunbright Supreme	13.7 c
Sunrich Gold	13.5 c
Sunrich Lemon Summer	12.5 d
Sunrich Lime	11.9 d
Full Sun Improved	10.9 e
Buttercream	8.0 f
Procut Orange	7.9 f
Solar Power	6.4 g
Orange Mahogany Bicolor	5.7 g
<i>p-value</i>	<i>&lt;0.0001</i>
<b>LSD</b>	<b>1.0478</b>

**Table 13. 2010 Sunflower Variety Trial II: Varieties by Number of Leaves Stripped**

<b>Variety</b>	<b>Number of Leaves Stripped</b>
Sunrich Orange	16.6 a
Sunrich Lemon	15.0 b
Sunrich Orange Summer	14.3 bc
Sunrich Lemon Summer	13.3 cd
Sunbright Supreme	12.8 d
Summer Breeze	12.5 d
Sunrich Gold	12.3 d
Sunrich Lime	10.8 e
Full Sun Improved	10.6 e
Solar Power	10.2 e
Buttercream	8.3 f
Orange Mahogany Bicolor	7.9 f
Procut Orange	7.7 f
<i>p-value</i>	<i>&lt;0.0001</i>
<b>LSD</b>	<b>1.1738</b>

**Table 14. 2010 Sunflower Variety Trial II: Varieties by Number of Leaves Left**

<b>Variety</b>	<b>Number of Leaves Left</b>	
Summer Breeze	3.4	a
Sunrich Lemon	3.2	ab
Sunrich Orange Summer	3.1	abc
Sunrich Lemon Summer	3.1	abc
Sunrich Lime	3.0	abc
Full Sun Improved	3.0	abc
Sunrich Gold	2.9	abc
Sunrich Orange	2.8	bcd
Buttercream	2.7	cd
Sunbright Supreme	2.7	cd
Orange Mahogany Bicolor	2.4	de
Procut Orange	2.4	de
Solar Power	2.2	e
Orange Sun	2.1	e
<i>p-value</i>	<b>&lt;0.0001</b>	
<b>LSD</b>	<b>0.4807</b>	

**Table 15. 2010 Sunflower Variety Trial II: Varieties by Number of Leaves Left**

<b>Variety</b>	<b>Number of Leaves Left</b>	
Summer Breeze	3.7	a
Sunrich Lemon	3.1	b
Sunrich Gold	3.0	bc
Sunrich Lime	3.0	bc
Sunrich Orange	2.9	bcd
Sunrich Orange Summer	2.9	bcd
Full Sun Improved	2.8	bcd
Sunrich Lemon Summer	2.7	cd
Sunbright Supreme	2.5	d
Solar Power	2.1	e
Buttercream	1.7	ef
Procut Orange	1.6	f
Orange Mahogany Bicolor	1.5	f
<i>p-value</i>	<b>&lt;0.0001</b>	
<b>LSD</b>	<b>0.4137</b>	

**Table 16: 2010 Sunflower Variety Trial I: Percent of Total Harvested on Each Harvest Date**

Variety	Days After Planting							
	40	46	52/53	55	62	66	70	73
Orange Mahogany Bicolor	9.3	45.8	31.8	7.5	0.9	4.7		
Buttercream		49.2	40.2	3.3		7.4		
Procut Orange		29.7	66.7			3.6		
Solar Power		11.8	37.5	27.2	5.1	16.2	1.5	0.7
Full Sun Improved			79.6	16.1				4.4
Sunrich Lime				43.3	22.2	33.3		1.1
Sunrich Orange Summer				24.5	19.6	54.9		1.0
Sunrich Gold				13.8	23.6	62.6		
Sunrich Lemon Summer				12.6		82.8		4.6
Summer Breeze				8.3		90.9		0.8
Sunrich Orange					15.2	78.3	5.4	1.1
Sunrich Lemon					9.5	87.4	1.1	2.1
Sunbright Supreme					8.8	83.3	7.0	0.9
Orange Sun						15.4	58.5	26.2

**Table 17: 2010 Sunflower Variety Trial II: Percent of Total Harvested on Each Harvest Date**

Variety	Days After Planting					
	43	47	50	55/56	61/62	68
Buttercream	8.9	30.6	53.2	7.3		
Procut Orange	7.2	44.9	46.4	1.4		
Orange Mahogany Bicolor	7.0	29.6	28.2	35.2		
Full Sun Improved			83.2	16.8		
Solar Power			4.4	75.8	19.8	
Summer Breeze			2.5	33.3	59.3	4.9
Sunrich Lime				65.5	34.5	
Sunrich Gold				30.4	69.6	
Orange Sun				16.7	83.3	
Sunrich Orange Summer					96.7	3.3
Sunrich Lemon Summer					96.6	3.4
Sunbright Supreme					73.5	26.5
Sunrich Orange					60.0	40.0
Sunrich Lemon					58.8	41.2

## **APPENDIX A:**

### **Photographs of Varieties in the 2010 Sunflower for Cut Flowers Variety Trial**

**Sunflower Varieties in the 2010 University of Delaware Variety Trial**



**Sunrich Gold**



**Sunrich Orange**



**Sunflower Varieties in the 2010 University of Delaware Variety Trial**



**Sunrich Lime**



**Sunrich Lemon**

**Sunflower Varieties in the 2010 University of Delaware Variety Trial**



**Sunrich Orange Summer**



**Sunrich Lemon Summer**



**Sunflower Varieties in the 2010 University of Delaware Variety Trial**



**Buttercream**



**Orange Mahogany Bicolor**

**Sunflower Varieties in the 2010 University of Delaware Variety Trial**



**Orange Sun**



**Sunflower Varieties in the 2010 University of Delaware Variety Trial**



**Summer Breeze**



**Solar Power**

**Sunflower Varieties in the 2010 University of Delaware Variety Trial**



**Full Sun Improved**



**Sunbright Supreme**

**Sunflower Varieties in the 2010 University of Delaware Variety Trial**



**Procut Orange**

**APPENDIX B:**  
**Weather Summary for the 2010 Sunflower Trials**  
**June 3<sup>rd</sup> (first planting) – September 20<sup>th</sup> (final harvest)**



**Appendix B: Weather Summary for the 2010 Sunflower Variety Trial**  
**June 3<sup>rd</sup> (first planting) – September 20<sup>th</sup> (final harvest)**

Trial I DAP	Trial II DAT	Date	Max Temp °F	Min Temp °F	Rainfall (in.)
		3-Jun	88.4	69.3	0
0		4-Jun	89.8	68.1	0
1		5-Jun	90.5	75.3	0
2		6-Jun	90.3	67	0
3		7-Jun	76.1	58.9	0
4		8-Jun	76.5	55.7	0
5		9-Jun	72.3	57.3	0
6		10-Jun	87.2	68.8	0
7		11-Jun	80.3	60.2	0
8		12-Jun	86.6	61.9	0
9		13-Jun	92.4	73.8	0
10		14-Jun	87.3	68	0
11		15-Jun	78.6	67.7	0
12		16-Jun	83.3	66.7	0
13		17-Jun	85.5	66.5	0
14		18-Jun	82.9	57.9	0
15		19-Jun	88.1	61.2	0
16		20-Jun	93.7	72	0
17		21-Jun	90.5	66.6	0
18		22-Jun	92.8	66.3	0
19		23-Jun	91.9	68.5	0
20		24-Jun	94.7	74.1	0
21		25-Jun	87.3	71	0
22		26-Jun	89.1	67.4	0
23		27-Jun	94.3	73	0
24		28-Jun	94.9	76.8	0.23
25		29-Jun	88.6	76.3	0.05
26		30-Jun	79.7	58.9	0
27		1-Jul	77.4	57.3	0
28		2-Jul	78.8	53.7	0
29		3-Jul	85.1	55.4	0
30		4-Jul	90.7	63	0
31		5-Jul	96	68	0
32		6-Jul	100.5	68.9	0
33		7-Jul	95.5	72.8	0
34		8-Jul	84.3	73.4	0
35		9-Jul	87.4	71.8	0.02
36		10-Jul	76.9	70.3	1.15
37		11-Jul	86.9	68.5	0.01
38		12-Jul	88.1	67.5	0
39		13-Jul	86.8	73.5	0.31
40	0	14-Jul	81.3	72.5	0.03
41	1	15-Jul	88.1	71.3	0
42	2	16-Jul	93.4	73.2	0
43	3	17-Jul	91.1	75.1	0
44	4	18-Jul	92.3	72.8	0

Trial I DAP	Trial II DAT	Date	Max Temp °F	Min Temp °F	Rainfall (in.)
45	5	19-Jul	88.6	74.9	0
46	6	20-Jul	92.2	73.4	0
47	7	21-Jul	90.7	73.6	0
48	8	22-Jul	91.2	72.1	0
49	9	23-Jul	94.8	72.1	0
50	10	24-Jul	97.9	79.7	0
51	11	25-Jul	97.9	72.2	0.09
52	12	26-Jul	84.7	66.9	0
53	13	27-Jul	88.3	61.5	0
54	14	28-Jul	89.8	72.9	0
55	15	29-Jul	90.8	74.4	0.78
56	16	30-Jul	81.9	65.1	0
57	17	31-Jul	85.7	60.4	0
58	18	1-Aug	80.9	66.3	0.08
59	19	2-Aug	81.8	68.5	0
60	20	3-Aug	87.5	65.3	0
61	21	4-Aug	88.8	73.8	0
62	22	5-Aug	94.4	73.8	0.36
63	23	6-Aug	88.5	69.2	0
64	24	7-Aug	87.2	64	0
65	25	8-Aug	89.2	65.6	0
66	26	9-Aug	92.2	71.1	0.01
67	27	10-Aug	96.1	73.1	0
68	28	11-Aug	93.7	74.4	0
69	29	12-Aug	85	73.1	0.54
70	30	13-Aug	79.8	70.1	0
71	31	14-Aug	80.4	62.9	0
72	32	15-Aug	81.4	67	0
73	33	16-Aug	90.7	73	0
74	34	17-Aug	83.2	75.5	0
	35	18-Aug	76.6	68.3	0.69
	36	19-Aug	86.1	69.7	0
	37	20-Aug	89.9	68.4	0
	38	21-Aug	88.7	65.1	0
	39	22-Aug	85.5	72.5	0.34
	40	23-Aug	82.3	67.8	0
	41	24-Aug	71.2	65.2	0.01
	42	25-Aug	76.6	62.8	0
	43	26-Aug	84.1	62.7	0
	44	27-Aug	80.9	56.9	0
	45	28-Aug	83	56.3	0
	46	29-Aug	91.1	56.7	0
	47	30-Aug	92.8	63.8	0
	48	31-Aug	94.4	62.2	0
	49	1-Sep	92.9	64.2	0
	50	2-Sep	90.3	69.3	0
	51	3-Sep	82.1	72.5	0.01
	52	4-Sep	81.6	57.7	0

Trial I DAP	Trial II DAT	Date	Max Temp °F	Min Temp °F	Rainfall (in.)
	53	5-Sep	78.5	50.9	0
	54	6-Sep	83.3	50.4	0
	55	7-Sep	86.4	61	0
	56	8-Sep	90.6	70.3	0
	57	9-Sep	75	56.4	0
	58	10-Sep	73.8	52.3	0
	59	11-Sep	78.3	52.3	0
	60	12-Sep	66.6	55.4	0.46
	61	13-Sep	78.7	59.3	0
	62	14-Sep	82.3	55.6	0
	63	15-Sep	80	52.3	0
	64	16-Sep	87	59.6	0.01
	65	17-Sep	80.4	63.5	0.09
	66	18-Sep	77.1	53	0
	67	19-Sep	83.9	50.5	0
	68	20-Sep	76.4	55.8	0