



# **Seedless Watermelon Variety Trial Results 2019**

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## 2019 University of Delaware Seedless Watermelon Variety Trial

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### Introduction

The 2019 Seedless Watermelon Variety Trial included 30 varieties from nine participating companies. The purpose of this trial was to evaluate seedless watermelon varieties for yield, quality and maturity.

### Materials and Methods

#### *Trial Design*

The trial was a Randomized Complete Block with four replications. Plots were 1 row, 30' in length.

#### *Location and Soil Type*

Field 6 B-C, University of Delaware Thurman Adams Research Farm, Carvel Research and Education Center, Georgetown, Delaware. The soil type was a Rosedale Loamy Sand.

#### *Cultural Practices*

The field was fertilized and limed according to soil test results. Preplant fertilizer was 50-0-160-72 (N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O-S). Black plastic mulch and trickle irrigation were laid on 7' centers. Additional nitrogen fertilizer was applied by fertigation during fruiting in three applications three weeks apart (40, 40, 30 lbs/a N).

Trial entries are listed in Table 1. Entries were seeded in the greenhouse on April 11, 2019. Plants were transplanted to the field on May 15, 2019. Field plots were one row (7 ft) wide and 30 ft long. Plots were arranged in a randomized complete block design with four replications. In-row spacing for seedless plants was 3 ft with 9 plants per plot. Four pollinizer plants, one each of the in-row pollinizer varieties SP-7, Accomplice, Wingman, and Ace Plus were planted in each plot and one between plots in the following arrangement:  
s 7 s s A s s s W s s A+. "7" designates Sp-7, A designates "Accomplice", W designates "Wingman", A+ designates "Ace plus" and "s" designates the seedless plants. The border rows next to the drive rows, which separated the replications, were planted in the triploid variety 'Wayfarer', with the same the pollinizers, in the same arrangement as the experimental plots.

Herbicides applied with a shielded sprayer to row middles on 5-30-19 were Gramoxone 2 qt/A, Reflex 12 oz/A, Dual 1.5 pt/A, and Prowl 2 pt/A. Select Max was applied post plant on 6-12-19 at a rate of 16 oz/A.

A comprehensive disease, insect and mite control program was used for the trial as follows:

5-23-19: Venom (chemigation) 5 oz/A  
6-7-19: Manzate 3 pt/A, Reaper 10 oz/A, Assail 4 oz/A  
6-14-19: Quadris Top 2 pt/A, Warrior 2 oz/A, Inspire Super 1 pt/A  
6-24-19: Bravo 3 pt/A, Inspire Super 16 oz/A, Reaper 10 oz/A, Sniper 6 oz/A, Topsin 10 oz/A  
7-2-19: Bravo 3 pt/A, Orondis Ultra 8 oz/A, Aprovia Top 14 oz/A, Reaper 10 oz/A, Sniper 7 oz/A, Topsin 8 oz/A, Tactic 1 pt/A  
7-11-19: Bravo 3 pt/A, Aprovia Top 14 oz/A, Reaper 10 oz/A, Sniper 7 oz/A, Topsin 8 oz/A, Tactic 1 pt/A  
7-17-19: Bravo 3 pt/A, Orondis Ultra 8 oz/A, Aprovia Top 14 oz/A, Assail 4 oz/A  
7-25-19: Bravo 3 pt/A, Orondis Ultra 8 oz/A, Aprovia Top 14 oz/A, Assail 4 oz/A  
8-9-19: Bravo 3 pt/A, Agrimek 10 oz/A, Topsin 8 oz/A, Inspire Super 16 oz/A, Ranman 3 oz/A  
8-16-19: Bravo 3 pt/A, Actigard .75 oz/A, Topsin 8 oz/A, Aprovia Top 14 oz/A, Quadris Top 14 oz/A, Orondis Ultra 8 oz/A, Lannate 3 pt/A  
8-22-19: Mancozeb 3 pt/A, Topsin 8 oz/A, Inspire Super 16 oz/A, Ranman 3 oz/A, Actigard .75 oz/A  
8-28-19: Bravo 3 pt/A, Aprovia Top 14 oz/A, Topsin 8 oz/A, Assail 4 oz/A,

Irrigation was applied regularly as determined by experiment station farm staff.

The summer growing season was hot with 27 days over 90 F. Rainfall for the growing season was 11.91 inches with no rainfall over 1.0 inch in 24 hours. Disease pressure was moderate and yields were moderate to high.

### ***Harvest***

Fruits were harvested three times. The first harvest was on July 29-30, 74 days after transplanting (DAT), the second harvest was 89 DAT, and the final harvest was in September at 109 DAT. The weight of each watermelon harvested was recorded individually. Five marketable watermelons from each plot were cut and evaluated for presence of hollow heart, hard seeds and soluble solids levels. Watermelons were cut lengthwise and then crosswise and the number of hard seeds visible on the surface of the four pieces were counted. Soluble solids were measured using a hand-held refractometer. Hollow heart was rated on a 1-5 scale with 1 being no hollow heart and 5 being severe hollow heart. Hard pips were also evaluated.

### **Results**

Marketable yields excluding misshapen culls and fruit less than 9 lbs are reported in Table 2 in both pounds per acre and fruit per acre for each variety. Yields in the trial ranged from 61,547 to 111,055 lbs/A.

The highest yielding varieties in the trial in terms of Marketable Yield in lbs/A were: Fascination, ORS 6375 A, SW 2004, SV 0241, Roadtrip, Red Garnet, Maxima, Crunchy Red, and Red Amber. This high yielding group ranged from 111,055 to 92,698 lbs per acre.

The highest yielding varieties in terms of Marketable Yield in fruit/A were: Fascination, ORS 6375 A, SW 2004, SV 0241, Roadtrip, Red Garnet, Crunchy Red, Charismatic, Summer Breeze, SV 0502, and Troubadour. This high group ranged from 7,548 to 6,626 fruits per acre.

Table 3 reports the percent of total harvest for each harvest. The following varieties produced more than 40% of their yield on the first harvest: Fascination, SW 2004, SV 0241, Roadtrip, Crunchy Red, Red Amber, Charismatic, Summer Breeze, Tailgate, Excursion, Bottle Rocket, 7187, SV 0502, SW 1981, Red Opal, Secretariat, Troubadour, Turnpike, and W 28960. Those varieties with late or extended harvest (30% or more harvested in the third harvest) were Red Amber, Charismatic, and ORS 6064 F.

Table 4 lists the varieties according to average fruit weight and gives the percentage of fruit in each of four weight classes: 60-count (9.0-13.5 lbs), 45-count (13.6-17.5 lbs), 36-count (17.6-21.4 lbs) and 30-count (>21.5 lbs). In general, fruit weights were lighter in 2019 than in 2018. Medium-large fruited varieties averaging over 15 pounds included Bottle Rocket, Maxima, Excursion, SV 4741 and Tailgate. Small fruited varieties averaging under 13.5 pounds were SV 0502, Summer Breeze, ORS 6203 A, Secretariat, Troubadour, and W 28960. All other varieties were between 13.6 to 15.4 average pounds per fruit.

Varieties that had greater than 40% of the melons harvested in the 45-count class were Bottle Rocket, Excursion SV 4741, SW 1981, ORS 6371, Turnpike, Red Amber, ORS 6406 B, Fascination, ORS 6375 A, Crunchy Red, Red Opal, SV 0241, Road Trip, Charismatic, Red Garnet, ORS 6064 F, and SV 0502. Red Opal had the highest percentage of 45 count melons (55 %).

Varieties with 40% or greater percentage of small fruited melons (60-count) included SW 2004, 7187, Charismatic, Red Garnet, E 26 C 00063, ORS 6064 F, Captivation, Boneci, SV 0502, Summer Breeze, ORS 6203 A, Secretariat, Troubadour, and W 28960.

Varieties with more than 25% 30 and 36-count fruit were Bottle Rocket, SV 4741, Maxima, Excursion, Tailgate, and ORS 6371.

Table 5 lists the varieties according to their soluble solid measurements. Soluble solids were higher in 2019 than in 2018. Soluble solids averages are based on a 20-fruit sample (5 fruit per replication). Those varieties with soluble solids 11.5 or greater were Roadtrip, SW 2004, Maxima, ORS 6064 B and Red Garnet. All other varieties had average soluble solids of over 10% except for ORS 6064 F (9.8).

Table 6 lists the varieties according to average severity of hollow heart. Hollow heart averages are based on a 20-fruit sample (5 fruit per replication). No hollow heart was observed in ORS 6375 A, Red Amber, Captivation, Summer Breeze, SV 0502, SW 1981, Troubadour or W 28960. The variety SW 2004 WA had the highest incidence of hollow heart (40%). Those additional varieties with one or more fruit with major or severe hollow heart (10% or more rating 4 and 5) were ORS 6371, 7187, SW 2004, Boneci, Charismatic, SV 0241, SV 4741, Bottle Rocket, Secretariat, Fascination, and Tailgate.

Table 9 lists the varieties according to the percent of fruit with enough hard seeds to render them unmarketable. SW 1981, SW 2004, Crunchy Red, Captivation, and W 28960 all had significant numbers of fruit over standard for hard seed. Varieties with hard (dark) pips were also rated in

2019. Fascination, Crunchy Red, ORS 6371, ORS 6203 A and SW 1981 had 10% or more of melons with hard pips.

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

## **Acknowledgements**

The authors gratefully acknowledge:

Extension Vegetable Program employees Jennifer Jones, Taylor Waltor, Joseph Jones, Alexa Barber, and Khashad Gillespie for their hard work on the trial.

Brian Hearn and Ward Harris for pesticide, fertilizer, and irrigation applications. Research farm staff that tilled the plots and laid and removed plastic mulch.

Participating Companies.

Harris Moran, Sakata, Seminis and Syngenta for donation of seed for border rows and pollenizers.

**Table 1. Entries in the 2019 University of Delaware Watermelon Variety Trial**

<b>Variety</b>	<b>Entering Company</b>
Bejo	W 28960 (yellow)
Enza Zaden	E26C.00063 (Cracker Jack)
Enza Zaden	Red Amber
Enza Zaden	Red Garnet
Seedway	Red Opal
HMClause	Turnpike
HMClause	Crunchy Red (standard check)
HMClause	Troubadour
Nunhems	7187 (standard check)
OriGene	Boneci
OriGene	ORS 6064 F
OriGene	ORS 6203 A
OriGene	ORS 6371
OriGene	ORS 6375 A
OriGene	ORS 6406 B
OriGene	Maxima
Sakata	Charismatic
Sakata	Secretariat
Seedway	SW 1981 (Guardsman)
Seedway	SW 2004 (Blackjack)
Seminis	Bottle Rocket
Seminis	Road Trip
Seminis	Tailgate
Seminis	Summer Breeze
Seminis	SV0241
Seminis	SV0502
Seedway	SV4741
Syngenta	Fascination (standard check)
Syngenta	Excursion
Syngenta	Captivation

**Table 2. 2019 Seedless Watermelon Variety Trial: Varieties by Marketable Yield (all marketable fruit over 9 lbs<sup>1</sup>) in Lbs/a and Fruits/a and Fruits per Harvest**

Variety	Yields and Harvest Distribution					
			Fruits per harvest			
	Marketable lbs/a	Marketable Fruits/a	Harvest 1 74 DAT	Harvest 2 89 DAT	Harvest 3 109 DAT	
Fascination	111055 a	7548 a	3284	3227	1037	
ORS 6375 A	110072 a	7548 a	2132	3630	1786	
SW 2004	107480 ab	7202 a	3111	2881	1210	
SV 0241	102478 ab	7145 a	3054	2305	1786	
Roadtrip	101241 ab	7087 a	3227	1844	2017	
Red Garnet	98223 ab	7202 a	2766	3111	1325	
Maxima	96729 ab	6223 ab	2305	2650	1268	
Crunchy Red	96672 ab	6626 a	2823	2189	1613	
Red Amber	92698 abc	6280 ab	3169	1786	1325	
ORS 6371	92413 abcd	6165 ab	1901	3572	2766	
Charismatic	92036 abcd	6626 a	2823	1786	2017	
Summer Breeze	91538 abcd	6972 a	3918	1498	1556	
Tailgate	90912 abcd	5877 ab	2593	1844	1440	
Excursion	89484 abcd	5762 ab	2305	2074	1383	
SV 4741	89372 abcd	5762 ab	2132	2478	1152	
Bottle Rocket	88842 abcd	5474 ab	2478	1383	1613	
7187	88241 abcd	5992 ab	2478	1786	1729	
SV 0502	88010 abcd	6626 a	3457	979	1037	
Captivation	86914 abcd	6396 ab	1844	3169	1383	
Boneci	86268 abcd	6396 ab	2189	2593	1613	
SW 1981	84913 abcd	5647 ab	2478	1729	1440	
ORS 6406 B	84202 abcd	5704 ab	2189	1959	1556	
Red Opal	82857 abcd	5762 ab	2938	1383	1440	
Secretariat	81313 abcd	6453 ab	2938	2132	1383	
Troubadour	80817 abcd	6626 a	2708	2132	1786	
ORS 6203 A	78661 bcd	6165 ab	2017	2362	1786	
ORS 6064 F	76785 bcd	5647 ab	1671	1729	2247	
E 26 C 00063	76732 bcd	5647 ab	1959	1959	1729	
Turnpike	64744 cd	4379 b	1844	1901	634	
W 28960 Yellow	61547 d	5531 ab	2823	1152	1556	
<i>p-value</i>	0.042	NS				
<b>LSD<sub>0.05</sub></b>	<b>31804</b>	<b>2241</b>				

**Table 3. 2019 Seedless Watermelon Variety Trial: Percent of Total Harvested at Each Harvest by Number**

Variety	Percent of Total Harvested at Each Harvest by Number		
	Harvest 1 74 DAT	Harvest 2 89 DAT	Harvest 3 109 DAT
Fascination	44	43	14
ORS 6375 A	28	48	24
SW 2004	43	40	17
SV 0241	43	32	25
Roadtrip	46	26	28
Red Garnet	38	43	18
Maxima	37	43	20
Crunchy Red	43	33	24
Red Amber	50	28	21
ORS 6371	31	58	45
Charismatic	43	27	30
Summer Breeze	56	21	22
Tailgate	44	31	25
Excursion	40	36	24
SV 4741	37	43	20
Bottle Rocket	45	25	29
7187	41	30	29
SV 0502	63	18	19
Captivation	29	50	22
Boneci	34	41	25
SW 1981	44	31	26
ORS 6406 B	38	34	27
Red Opal	51	24	25
Secretariat	46	33	21
Troubadour	41	32	27
ORS 6203 A	33	38	29
ORS 6064 F	30	31	40
E 26 C 00063	35	35	31
Turnpike	42	43	14
W 28960 Yellow	51	21	28

**Table 4. 2019 Seedless Watermelon Variety Trial: Varieties by Average Fruit Weight and Percent of Fruit in Each Size Class**

Variety	Mean Marketable I Weight (lbs)		Percent of Fruit in Each Size Class			
			30 Count 21.5 lbs plus	36 Count 17.6-21.4 lbs	45 Count 13.6- 17.5 lbs	60 Count 9.0- 13.5 lbs
Bottle Rocket	16.2	a	13.7	18.9	41.1	26.3
Maxima	15.5	ab	7.4	22.2	38.0	32.4
Excursion	15.5	ab	6.0	22.0	41.0	31.0
SV 4741	15.5	abc	3.0	28.0	40.0	29.0
Tailgate	15.5	abc	6.9	18.6	43.1	31.4
SW 1981	15.0	bcd	2.0	20.4	44.9	32.7
ORS 6371	15.0	bcd	0.9	24.3	43.9	30.8
SW 2004	14.9	bcd	8.8	15.2	35.2	40.8
Turnpike	14.8	bcde	2.6	21.1	42.1	34.2
Red Amber	14.8	bcd	2.8	17.4	43.1	36.7
ORS 6406 B	14.7	bcd	3.0	19.2	42.4	35.4
7187	14.7	bcd	3.8	17.3	37.5	41.3
Fascination	14.7	cd	1.5	16.8	46.6	35.1
ORS 6375 A	14.6	de	0.8	16.0	49.6	33.6
Crunchy Red	14.6	de	2.6	13.9	47.0	36.5
Red Opal	14.4	def	1.0	9.0	55.0	35.0
SV 0241	14.4	def	2.4	11.3	40.3	46.0
Roadtrip	14.3	defg	1.6	12.2	46.3	39.8
Charismatic	13.9	efgh	0.9	7.8	45.2	46.1
Red Garnet	13.6	fgh	0.0	9.6	42.4	48.0
E 26 C 00063	13.6	fghi	1.0	10.2	35.7	53.1
ORS 6064 F	13.6	fghi	0.0	5.1	45.9	49.0
Captivation	13.6	fghi	0.9	9.0	38.7	51.4
Boneci	13.5	ghi	0.9	8.1	39.6	51.4
SV 0502	13.3	hij	0.0	5.2	43.5	51.3
Summer Breeze	13.1	hij	0.8	7.4	35.5	56.2
ORS 6203 A	12.8	ijk	0.0	4.7	34.6	60.7
Secretariat	12.6	jk	0.0	3.6	30.4	66.1
Troubadour	12.2	k	0.0	0.9	28.7	70.4
W 28960 Yellow	11.1	l	0.0	0.0	13.5	86.5
<b>p-value</b>	<b>&lt;0.0001</b>					
<b>LSD 0.05</b>	<b>0.7</b>					

**Table 5. 2019 Seedless Watermelon Variety Trial: Varieties by Soluble Solid Content**

<b>Variety</b>	<b>% Soluble Solids</b>	
Roadtrip	12.0	a
SW 2004	11.8	ab
Maxima	11.7	ab
7187	11.6	abc
ORS 6406 B	11.5	abcd
Red Garnet	11.5	abcd
Boneci	11.4	bcde
E 26 C 00063	11.4	bcde
Turnpike	11.4	bcde
Red Opal	11.4	bcde
Captivation	11.1	cdef
SV 0241	11.1	cdef
Troubadour	11.1	cdef
Bottle Rocket	11.1	cdef
ORS 6375 A	11.1	cdef
ORS 6371	11.0	def
SV 0502	11.0	def
Secretariat	11.0	def
Summer Breeze	11.0	def
Tailgate	11.0	def
Fascination	10.9	efg
Red Amber	10.9	efg
W 28960 Yellow	10.8	fgh
SW 1981	10.8	fgh
Charismatic	10.7	fghi
Excursion	10.4	ghi
ORS 6203 A	10.4	hi
Crunchy Red	10.3	hij
SV 4741	10.3	ij
ORS 6064 F	9.8	j
<i>p-value</i>	<i>&lt;0.0001</i>	
<i>LSD 0.05</i>	<i>0.51</i>	

**Table 6. 2019 Seedless Watermelon Variety Trial: Hollow Heart (HH) Severity Rating (1 = no HH, 2 = minor HH, 3 moderate HH, 4 = major HH, 5 = Severe HH)**

Variety	Hollow Heart Severity Rating (mean)		Percent Hollow Heart By Severity Rating			
			2	3	4	5
ORS 6371	1.90	a	10	5	10	10
7187	1.85	a	10	5	15	5
SW 2004	1.85	a	10	15	15	0
Boneci	1.80	ab	0	0	0	20
Charismatic	1.80	ab	10	0	10	10
SV 0241	1.65	abc	20	5	5	5
SV 4741	1.65	abc	0	15	5	5
Bottle Rocket	1.60	abcd	15	5	5	5
Secretariat	1.55	abcde	20	0	5	5
Fascination	1.50	abcdef	0	0	10	5
Tailgate	1.40	abcdef	0	0	0	10
Maxima	1.30	bcdef	10	0	0	5
Crunchy Red	1.25	cdef	5	0	0	5
Turnpike	1.25	cdef	5	10	0	0
Red Opal	1.20	cdef	20	0	0	0
Excursion	1.15	cdef	5	5	0	0
ORS 6064 F	1.15	cdef	0	0	5	0
Red Garnet	1.15	cdef	5	5	0	0
E 26 C 00063	1.10	def	0	5	0	0
ORS 6406 B	1.05	ef	5	0	0	0
ORS 6203 A	1.05	ef	5	0	0	0
Roadtrip	1.05	ef	5	0	0	0
ORS 6375 A	1.00	f	0	0	0	0
Red Amber	1.00	f	0	0	0	0
Captivation	1.00	f	0	0	0	0
Summer Breeze	1.00	f	0	0	0	0
SV 0502	1.00	f	0	0	0	0
SW 1981	1.00	f	0	0	0	0
Troubadour	1.00	f	0	0	0	0
W 28960 Yellow	1.00	f	0	0	0	0
<i>p-value</i>	<i>0.0001</i>					
<i>LSD 0.05</i>	<i>0.55</i>					

**Table 7. 2019 Seedless Watermelon Variety Trial: Percent of Sampled Fruit Above Standard for Mature Seeds\* and Varieties with Hard Pips Present**

Variety	% Above Standard for Mature Seeds	Variety	% Hard Pips >4
SW 1981	25	Fascination	20
SW 2004	25	Crunchy Red	15
Crunchy Red	15	ORS 6371	15
Captivation	10	ORS 6203 A	10
W 28960 Yellow	10	SW 1981	10
7187	5	7187	5
Charismatic	5	Captivation	5
Excursion	5	Charismatic	5
Fascination	5	E 26 C 00063	5
ORS 6064 F	5	ORS 6406 B	5
ORS 6371	5	ORS 6064 F	5
Roadtrip	5	Red Amber	5
SV 4741	5	Troubadour	5
Turnpike	5	W 28960 Yellow	5

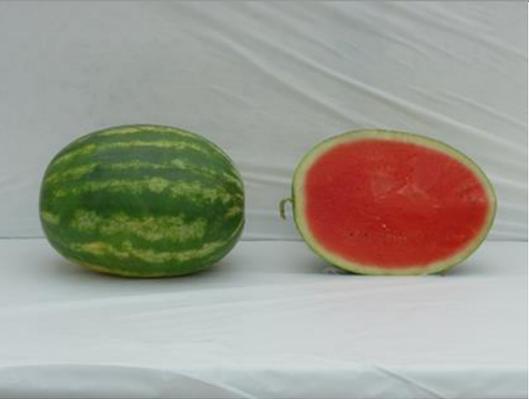
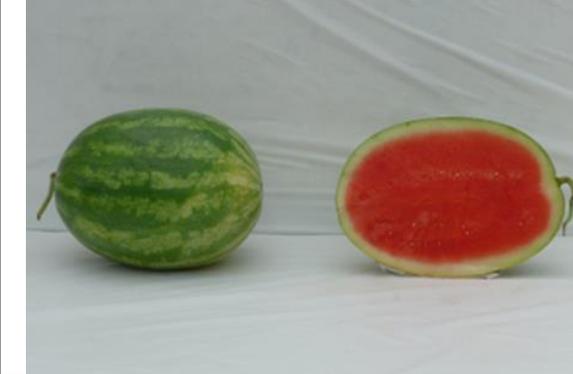
\* the USDA standard for seedless watermelons: “Watermelons of a size greater than ten (10) pounds may have 4 or fewer mature seeds, not to include pips/caplets, on the face of the melon which has been cut into four equal sections (one lengthwise cut and one crosswise cut)”

**APPENDIX A:**

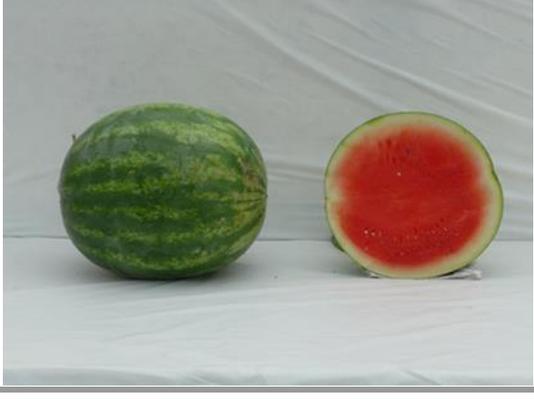
**Photographs and Characteristics of Varieties in the 2019 Seedless  
Watermelon Variety Trial**



**Varieties from the 2019 Seedless Watermelon Trial**

	<p><b>Variety</b> Fascination  <b>Marketable Yield lbs/a</b> 111055  <b>Yield Rank</b> 1  <b>Fruits per Acre</b> 7548  <b>Mean Weight lbs</b> 14.7  <b>Count 30-36-45-60 %</b> 1-17-47-35  <b>Soluble Solids</b> 10.9  <b>Company Entering</b> Syngenta</p>	
	<p><b>Variety</b> ORS 6375 A  <b>Marketable Yield lbs/a</b> 110072  <b>Yield Rank</b> 2  <b>Fruits per Acre</b> 7548  <b>Mean Weight lbs</b> 1-15-50-34  <b>Count 30-36-45-60 %</b> 14.6  <b>Soluble Solids</b> 11.1  <b>Company Entering</b> Origene</p>	
	<p><b>Variety</b> SW 2004  <b>(Blackjack)</b>  <b>Marketable Yield lbs/a</b> 107480  <b>Yield Rank</b> 3  <b>Fruits per Acre</b> 7202  <b>Mean Weight lbs</b> 14.9  <b>Count 30-36-45-60 %</b> 9-15-35-41  <b>Soluble Solids</b> 11.8  <b>Company Entering</b> Seedway</p>	
	<p><b>Variety</b> SV 0241  <b>Marketable Yield lbs/a</b> 102478  <b>Yield Rank</b> 4  <b>Fruits per Acre</b> 7145  <b>Mean Weight lbs</b> 14.4  <b>Count 30-36-45-60 %</b> 2-11-40-46  <b>Soluble Solids</b> 11.1  <b>Company Entering</b> Seminis</p>	

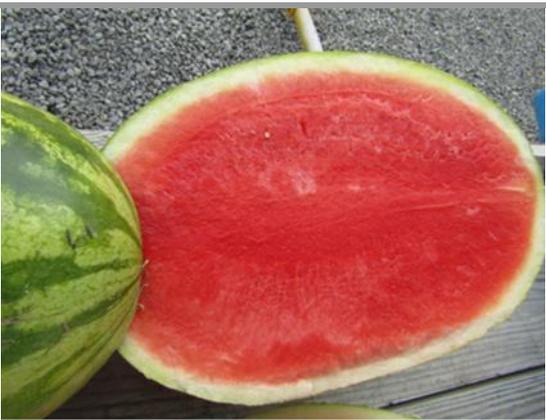
**Varieties from the 2019 Seedless Watermelon Trial**

	<p><b>Variety</b> Roadtrip            Marketable Yield lbs/a 101241            Yield Rank 5            Fruits per Acre 7087            Mean Weight lbs 14.3            Count 30-36-45-60 % 2-12-46-40            Soluble Solids 12.0            Company Entering Seminis</p>	
	<p><b>Variety</b> Red Garnet            Marketable Yield lbs/a 98223            Yield Rank 6            Fruits per Acre 7202            Mean Weight lbs 13.6            Count 30-36-45-60 % 0-10-42-48            Soluble Solids 11.5            Company Entering Enza Zaden</p>	
	<p><b>Variety</b> Maxima            Marketable Yield lbs/a 96729            Yield Rank 7            Fruits per Acre 6223            Mean Weight lbs 15.5            Count 30-36-45-60 % 7-22-38-22            Soluble Solids 11.7            Company Entering Origene</p>	
	<p><b>Variety</b> Crunchy Red            Marketable Yield lbs/a 96672            Yield Rank 8            Fruits per Acre 6626            Mean Weight lbs 14.6            Count 30-36-45-60 % 3-14-47-36            Soluble Solids 10.3            Company Entering HMClause</p>	

**Varieties from the 2019 Seedless Watermelon Trial**

	<p><b>Variety</b> Red Amber  <b>Marketable Yield lbs/a</b> 92698  <b>Yield Rank</b> 9  <b>Fruits per Acre</b> 6280  <b>Mean Weight lbs</b> 14.8  <b>Count 30-36-45-60 %</b> 3-17-43-37  <b>Soluble Solids</b> 10.9  <b>Company Entering</b> Enza Zaden</p>	
	<p><b>Variety</b> ORS 6371  <b>Marketable Yield lbs/a</b> 92413  <b>Yield Rank</b> 10  <b>Fruits per Acre</b> 6165  <b>Mean Weight lbs</b> 15.0  <b>Count 30-36-45-60 %</b> 1-24-44-31  <b>Soluble Solids</b> 11.0  <b>Company Entering</b> Origene</p>	
	<p><b>Variety</b> Charismatic  <b>Marketable Yield lbs/a</b> 92036  <b>Yield Rank</b> 11  <b>Fruits per Acre</b> 6626  <b>Mean Weight lbs</b> 13.9  <b>Count 30-36-45-60 %</b> 1-8-45-46  <b>Soluble Solids</b> 10.7  <b>Company Entering</b> Sakata</p>	
	<p><b>Variety</b> Summer Breeze  <b>Marketable Yield lbs/a</b> 91538  <b>Yield Rank</b> 12  <b>Fruits per Acre</b> 6972  <b>Mean Weight lbs</b> 13.1  <b>Count 30-36-45-60 %</b> 1-7-36-56  <b>Soluble Solids</b> 11.0  <b>Company Entering</b> Seminis</p>	

**Varieties from the 2019 Seedless Watermelon Trial**

	<p><b>Variety</b> <b>Tailgate</b>            Marketable Yield lbs/a 90912            Yield Rank 13            Fruits per Acre 5877            Mean Weight lbs 15.5            Count 30-36-45-60 % 7-19-43-31            Soluble Solids 11.0            Company Entering Seminis</p>	
	<p><b>Variety</b> <b>Excursion</b>            Marketable Yield lbs/a 89484            Yield Rank 14            Fruits per Acre 5762            Mean Weight lbs 15.5            Count 30-36-45-60 % 6-22-42-31            Soluble Solids 10.4            Company Entering Syngenta</p>	
	<p><b>Variety</b> <b>SV 4741</b>            Marketable Yield lbs/a 89372            Yield Rank 15            Fruits per Acre 5762            Mean Weight lbs 15.5            Count 30-36-45-60 % 3-28-40-29            Soluble Solids 10.3            Company Entering Seedway</p>	
	<p><b>Variety</b> <b>Bottle Rocket</b>            Marketable Yield lbs/a 88842            Yield Rank 16            Fruits per Acre 5474            Mean Weight lbs 16.2            Count 30-36-45-60 % 14-19-41-26            Soluble Solids 11.1            Company Entering Seminis</p>	

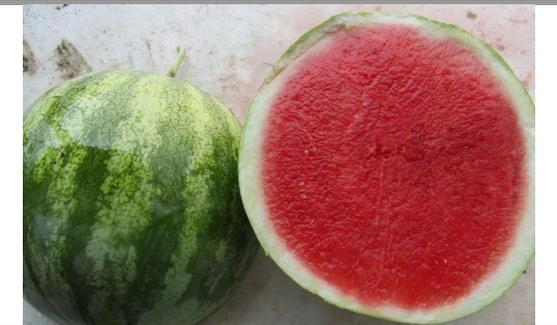
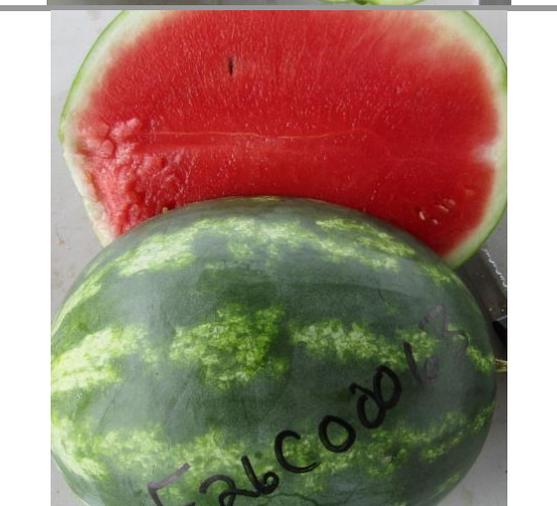
**Varieties from the 2019 Seedless Watermelon Trial**

	<p><b>Variety</b> 7187            Marketable Yield lbs/a 88241            Yield Rank 17            Fruits per Acre 5992            Mean Weight lbs 14.7            Count 30-36-45-60 % 4-17-38-41            Soluble Solids 11.6            Company Entering Nunhems</p>	
	<p><b>Variety</b> SV 0502            Marketable Yield lbs/a 88010            Yield Rank 18            Fruits per Acre 6626            Mean Weight lbs 13.3            Count 30-36-45-60 % 0-5-44-51            Soluble Solids 11.0            Company Entering Seminis</p>	
	<p><b>Variety</b> Captivation            Marketable Yield lbs/a 86914            Yield Rank 19            Fruits per Acre 6396            Mean Weight lbs 13.6            Count 30-36-45-60 % 1-9-39-51            Soluble Solids 11.1            Company Entering Syngenta</p>	
	<p><b>Variety</b> Boneci            Marketable Yield lbs/a 86268            Yield Rank 20            Fruits per Acre 6396            Mean Weight lbs 13.5            Count 30-36-45-60 % 1-8-40-51            Soluble Solids 11.4            Company Entering Origene</p>	

**Varieties from the 2019 Seedless Watermelon Trial**

	<p><b>Variety</b>            Marketable Yield lbs/a            Yield Rank            Fruits per Acre            Mean Weight lbs            Count 30-36-45-60 %            Soluble Solids            Company Entering</p>	<p><b>SW 1981 (Guardman)</b>            84913            21            5647            15.0            2-20-45-33            10.8            Seedway</p>
	<p><b>Variety</b>            Marketable Yield lbs/a            Yield Rank            Fruits per Acre            Mean Weight lbs            Count 30-36-45-60 %            Soluble Solids            Company Entering</p>	<p><b>ORS 6406 B</b>            84202            22            5704            14.7            3-19-42-35            11.5            Origene</p>
	<p><b>Variety</b>            Marketable Yield lbs/a            Yield Rank            Fruits per Acre            Mean Weight lbs            Count 30-36-45-60 %            Soluble Solids            Company Entering</p>	<p><b>Red Opal</b>            82857            23            5762            14.4            1-9-55-35            11.4            Seedway</p>
	<p><b>Variety</b>            Marketable Yield lbs/a            Yield Rank            Fruits per Acre            Mean Weight lbs            Count 30-36-45-60 %            Soluble Solids            Company Entering</p>	<p><b>Secretariat</b>            81313            24            6453            12.6            0-4-30-66            11.0            Sakata</p>

**Varieties from the 2019 Seedless Watermelon Trial**

	<p><b>Variety</b> Troubadour  <b>Marketable Yield lbs/a</b> 80817  <b>Yield Rank</b> 25  <b>Fruits per Acre</b> 6626  <b>Mean Weight lbs</b> 12.2  <b>Count 30-36-45-60 %</b> 0-1-29-70  <b>Soluble Solids</b> 11.1  <b>Company Entering</b> HMClause</p>	
	<p><b>Variety</b> ORS 6203 A  <b>Marketable Yield lbs/a</b> 78661  <b>Yield Rank</b> 26  <b>Fruits per Acre</b> 6165  <b>Mean Weight lbs</b> 12.8  <b>Count 30-36-45-60 %</b> 0-5-35-60  <b>Soluble Solids</b> 10.4  <b>Company Entering</b> Origene</p>	
	<p><b>Variety</b> ORS 6064 F  <b>Marketable Yield lbs/a</b> 76785  <b>Yield Rank</b> 27  <b>Fruits per Acre</b> 5647  <b>Mean Weight lbs</b> 13.6  <b>Count 30-36-45-60 %</b> 0-5-46-49  <b>Soluble Solids</b> 9.8  <b>Company Entering</b> Origene</p>	
	<p><b>Variety</b> E 26 C 00063  <b>(Cracker Jack)</b>  <b>Marketable Yield lbs/a</b> 76732  <b>Yield Rank</b> 28  <b>Fruits per Acre</b> 5647  <b>Mean Weight lbs</b> 13.6  <b>Count 30-36-45-60 %</b> 1-10-36-53  <b>Soluble Solids</b> 11.4  <b>Company Entering</b> Seedway</p>	

**Varieties from the 2019 Seedless Watermelon Trial**

	<p style="text-align: center;"><b>Variety</b> Turnpike</p> <p>Marketable Yield lbs/a 64744</p> <p>Yield Rank 29</p> <p>Fruits per Acre 4379</p> <p>Mean Weight lbs 14.8</p> <p>Count 30-36-45-60 % 3-21-42-34</p> <p>Soluble Solids 11.4</p> <p>Company Entering HMClause</p>	
	<p style="text-align: center;"><b>Variety</b> W 28960 (yellow)</p> <p>Marketable Yield lbs/a 61547</p> <p>Yield Rank 30</p> <p>Fruits per Acre 5531</p> <p>Mean Weight lbs 11.1</p> <p>Count 30-36-45-60 % 0-0-14-86</p> <p>Soluble Solids 10.8</p> <p>Company Entering Bejo</p>	

**APPENDIX B:**  
**Weather Summary for the 2019 Watermelon Variety Trial**  
**May – September**

Appendix B1. Weather data for the Georgetown REC site May 2019.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1	60.5	72.9	55.6	14.3	87	99.1	69.9	17.7	6.1	0	0.12	66	71.2	62.5	
2	71.7	85.9	54.4	20.2	80.2	99.3	51.6	22	7.8	1.15	0.2	68.5	74.6	64	
3	65.1	77.1	55.6	16.3	91.4	100	73.9	21	5	0.04	0.14	70.4	75.9	66.1	
4	68.6	79.1	59.9	19.5	92.7	100	71.2	14.3	4.4	0.01	0.12	70.9	74.2	68	
5	56.9	60.1	52.2	6.2	99	100	95	4.5	6.4	0.59	0.03	67.3	70.9	64.1	
6	58.8	71.5	51.7	11.6	87.7	99.8	62.8	17.3	6.3	0.03	0.13	65.5	70.6	62	
7	64	77.8	50.4	14.1	78.8	99.8	48.4	25	6.4	0	0.19	66.9	72.1	62.4	
8	63	74.2	56.1	15.1	84.8	98.2	68.5	19.1	4.5	0	0.13	68.5	73.5	64.4	
9	66.3	77.7	55.6	16.6	81.5	98.9	50	23	6.6	0	0.18	69.3	74.2	65.4	
10	70.9	80.1	62.1	21.1	77.5	97.6	54	20.5	10.3	0	0.19	69.6	73	66.6	
11	65.7	72.3	59.2	15.8	83.9	99.3	64.7	15.9	5.7	0.22	0.12	70.4	73.5	68	
12	54.6	60.2	49.2	4.7	97.3	99.3	92.4	3.5	8.5	0.5	0.03	65.7	69.2	62.8	
13	51.7	55.8	48.8	2.3	97.2	99.3	94	8.4	7	0.88	0.05	61.8	63.1	60.2	
14	53.6	61	46.1	3.6	79.4	100	51.1	15.2	6.2	0	0.11	61.2	63.3	59.2	
15	58.6	71.9	45.1	8.5	65	95	32.5	28.3	7.1	0	0.21	62.4	67.9	57.5	
16	63.3	74	54	14	70.7	92.7	42.6	22	5.7	0.04	0.18	64.8	69.6	60.9	
17	69.8	79.7	56.4	18.1	70.1	92.9	50.5	22.7	7.3	0	0.19	66.9	71	62.9	
18	68	76.2	61.9	19.1	69.9	97.7	37.5	24.2	4.8	0	0.19	69.5	74.6	65.5	
19	73.7	85.4	61.2	23.3	78.2	97.6	58.3	26.6	9.1	0	0.22	71.3	76.2	67.1	
20	78.7	88.5	73	30.8	70.3	86.5	49.2	25.3	10.7	0	0.27	73.7	78	70.4	
21	66.2	73.4	57.3	15.3	57	83.5	34.4	28.1	8.5	0	0.23	72.6	75.8	69.4	
22	61.9	74	47.6	10.8	54.8	93.9	29.3	26	4.6	0	0.19	70.2	74.6	65.9	
23	68.2	83.3	55.5	19.4	73.5	96.9	54	21.9	9.3	0.24	0.2	69.9	74.1	66.2	
24	74.6	80.9	65.7	23.3	64.6	98.3	34.6	28.6	10.6	0	0.26	71.8	75.3	69.8	
25	67	73.6	59.9	16.7	72.2	89.7	56.1	21.3	7.1	0	0.17	71.1	75.8	67.6	
26	77.9	88.6	68	28.3	73.9	99	42.8	25.1	7.6	0.03	0.25	74.5	80.6	69.6	
27	73	81.7	64.6	23.1	76.7	99.4	50	25.2	5.3	0.17	0.2	76.3	81.2	72.2	
28	73.7	85.9	62.1	24	82.1	98.3	58.5	19.6	7.2	0.57	0.18	74	78.6	70.3	
29	80.9	91.3	68.1	29.7	70.3	99.2	46	24.8	6.5	0	0.24	77.2	82.6	72.2	
30	76.1	89.2	67.6	28.4	79	99.9	46	24.1	5.2	0.45	0.22	78	84.2	73.4	
31	74.8	83.8	67.1	25.5	74	98.6	42	27	5.7	0	0.23	77.5	82.6	73.1	
A	Day														
B	Avg Temp			(°F)			I			Avg Solar			(MJ.m <sup>-2</sup> .day <sup>-1</sup> )		
C	Max Temp			(°F)			J			Avg Wind Speed			(mph)		
D	Min Temp			(°F)			K			Rainfall			(in)		
E	GDD			(base 50 °F)			L			Ref ET			(in day <sup>-1</sup> )		
F	Avg RH			(%)			M			Avg Soil Temp			(°F)		
G	Max RH			(%)			N			Max Soil Temp			(°F)		
H	Min RH			(%)			O			Min Soil Temp			(°F)		

Appendix B2. Weather data for the Georgetown REC site June 2019.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	72.8	80.3	66.4	23.4	77.9	100	48.5	20.1	4.2	0	0.17	76.7	80.1	73.4
2	74.7	85.8	62.7	24.2	72.4	99.2	44.6	24.3	7.8	0.06	0.23	76.3	81.3	72
3	67.5	75.5	53.9	14.7	58.5	95.1	25.3	28.5	7.1	0	0.23	75.2	79.4	71.6
4	63.1	74.6	48.9	11.8	57.7	94.3	27	29.7	5.4	0	0.22	72.9	79.1	67.1
5	72.3	85.3	62.1	23.7	81.9	99	61.2	18.4	10.8	0.34	0.18	73.5	77.4	70
6	78	86.8	71.4	29.1	81.3	98.4	54.1	23.5	7	0.1	0.22	76.6	82.2	72.4
7	73.4	79.3	66.6	23	81.3	98.3	63.7	17.6	4.2	0	0.15	76.8	80.1	74
8	68.3	75.5	62.8	19.1	78.9	98.7	45.2	21.5	6.1	0	0.18	74.7	78.1	71.8
9	68.2	72.4	65	18.7	87.7	99	76.9	8.2	7.4	0.13	0.08	72.4	74	71
10	74.4	84.6	66.1	25.3	93	100	71.8	15	6.1	0.74	0.14	73.8	77.9	70.4
11	70.7	77.5	60.2	18.9	73.5	100	40.1	26.8	9.4	0.28	0.23	75	78.1	72.7
12	66.9	73.9	57.3	15.6	71.3	98.3	51.7	24.9	5.2	0	0.18	72.4	76.1	68.7
13	68.6	76.8	62	19.4	87.8	99.6	71.6	14.6	7.8	0.71	0.12	72.9	76	70
14	65.6	73.6	58	15.8	67.8	99.3	37.2	27.3	9.2	0.04	0.22	71.6	74.2	68.9
15	70	81.3	55.1	18.2	63.8	95.8	29.8	29	8.7	0	0.26	70.9	75.5	66.5
16	77.1	85.9	66.5	26.2	71.4	88.3	55.5	25.1	11	0	0.24	73.5	77.7	69.7
17	80	90.9	70.2	30.5	73.1	99.1	46.8	24.3	5.4	0.26	0.23	77.6	82.9	73.2
18	77.1	87.1	69.8	28.5	84.7	99.7	59.2	20.9	5.5	0.62	0.19	78.4	82.3	75.1
19	77.8	86.3	71.3	28.8	87	99.9	64.7	21	5.7	0.04	0.18	79	82.8	75.9
20	79.8	88.9	70.4	29.6	82.4	99.2	54	24.6	9.3	0.54	0.24	80.2	83.7	77
21	73.5	79.9	68.4	24.2	75.2	99.4	42.8	21.7	9.8	0.31	0.21	77.7	79.6	76.3
22	71.1	80.1	60.9	20.5	64.2	93	32.3	28.7	6.4	0	0.24	76.6	80.9	72.8
23	70.4	82.2	56.7	19.5	65	96.8	36.1	29.6	4	0	0.23	76.1	81.3	71.3
24	75.7	87.8	63.3	25.6	73.7	96.5	48.5	25.6	6	0	0.23	77.1	81.7	72.4
25	79.2	86.8	72.9	29.9	78.6	97.1	52.1	20.3	6.6	0	0.2	78.9	81.9	76.4
26	78.9	89	68.1	28.5	67.7	97.7	40.4	27.4	4.8	0	0.25	79.3	83.7	75.2
27	81	91.8	68.2	30	66.2	99.1	38.2	28.3	3.9	0	0.25	80.4	85	76
28	80.3	93.2	68.2	30.7	73.1	97.1	44.6	23.8	3.5	0	0.22	81	84.7	77.4
29	79.4	92.4	71.7	32.1	79.7	98.7	47.2	23.8	5.4	0.05	0.23	81.6	86.3	78
30	79.1	89.2	70.2	29.7	68.5	97.8	37.6	26.8	7.6	0	0.27	81	84.4	78
A	Day													
B	Avg Temp			(°F)				I	Avg Solar			(MJ.m <sup>-2</sup> .day <sup>-1</sup> )		
C	Max Temp			(°F)				J	Avg Wind Speed			(mph)		
D	Min Temp			(°F)				K	Rainfall			(in)		
E	GDD			(base 50 °F)				L	Ref ET			(in day <sup>-1</sup> )		
F	Avg RH			(%)				M	Avg Soil Temp			(°F)		
G	Max RH			(%)				N	Max Soil Temp			(°F)		
H	Min RH			(%)				O	Min Soil Temp			(°F)		

Appendix B3. Weather data for the Georgetown REC site July 2019.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	73.2	83.7	60.7	22.2	68	93.1	44.9	26.9	4	0	0.22	79.3	83	75.3
2	78	89.7	63.5	26.6	72	99.8	44.5	27.3	6.3	0	0.25	79.7	84.5	75
3	81.3	91.4	69.3	30.4	75.1	98.4	49.6	26.3	4.2	0	0.23	81.5	85.7	77.5
4	80.3	90.8	71.9	31.4	84.3	99.5	57.7	20.2	3.1	0	0.18	82	85.3	78.9
5	81.6	90.5	75	32.8	85.5	100	60.5	20.2	4.3	0.06	0.19	82.4	85.7	79.6
6	81.6	90.3	74.4	32.3	84.6	99.4	62.1	23.5	6.6	0.04	0.21	83	87.2	79.5
7	77.8	84.6	72.6	28.6	87.6	99.7	69	16.8	3.7	0	0.15	81.9	83.7	79.8
8	73.4	78.5	66.7	22.6	87.6	98.4	58.8	10.2	4.9	0.25	0.11	79.3	81.2	77.3
9	73.6	85.9	61.7	23.8	79.5	99.4	50.9	24.6	3.4	0	0.2	78.2	82.9	73.6
10	75.6	87.3	63.4	25.3	73.3	97	51.2	25.2	4.1	0	0.21	79.1	83.4	74.9
11	79	91	65.4	28.2	83.7	99.9	57.1	21.3	7	0.46	0.21	79.8	83.8	76.5
12	79.2	88.5	72.4	30.5	82.9	100	53.6	24.3	6	0	0.22	81.6	85.9	78.1
13	78.6	87.8	69.5	28.7	70.9	99.1	39.6	28	4.6	0	0.24	81.6	86	77.5
14	82.2	92.7	71.5	32.1	73.6	99.6	47.2	26.1	4.9	0	0.24	81.8	86.2	77.7
15	78.8	89	68.1	28.5	67.5	96.4	39.4	28	3.9	0	0.24	81.7	85.6	77.9
16	81.8	93.3	69.8	31.5	75.8	99.5	50.1	25.5	4.4	0	0.23	82	86.5	78.1
17	84.1	95.3	73.8	34.5	75.6	98.3	47	25.1	7.4	0.07	0.26	83.8	87.8	80.5
18	82.5	91	74.8	32.9	83.8	98.7	62.4	23.8	7.5	0.01	0.22	84.2	88	80.8
19	85.2	94.8	74.7	34.8	74.8	99.9	45.4	24.6	5.1	0	0.24	84.7	88.3	81.1
20	87.5	97	79.7	38.3	74.6	97.6	49.3	25.4	5.9	0	0.26	85.7	89.8	82.1
21	88.1	98.2	78.8	38.5	73.2	99.1	43.5	24.5	6.3	0	0.27	86.3	90.3	82.8
22	85.6	94.4	74.3	34.4	73	98.1	53.6	24.7	8.3	0.01	0.25	86.1	89.7	82.6
23	71.3	80.8	67.3	24	93.5	99.5	68.5	7.7	5.5	0.83	0.09	82.1	85.9	79
24	73	82	65.7	23.9	79.6	100	53.1	24.7	5.6	0.09	0.2	80.2	84.1	77.2
25	73.2	84.8	61.7	23.3	76.8	99.7	44.3	19.7	2.4	0	0.16	79.2	82.1	75.8
26	74.4	86.2	61.2	23.7	74	99.8	39.4	25.1	2.6	0	0.2	78.7	82.7	74.7
27	75.2	87.3	62.6	25	76	99.8	46.9	22.9	3.2	0	0.19	79.1	83.1	75.3
28	78.5	91.1	65.9	28.5	69.3	95.3	43.7	25.4	6.1	0	0.24	80	84.5	75.9
29	81.1	93.6	70.1	31.9	65.4	88.6	36	24.7	5.6	0	0.26	81.3	85.5	77.6
30	81.4	93.3	70.7	32	67.1	93.2	40	25.9	6.6	0	0.27	82.4	87	78.4
31	78	90.8	68	29.4	83.7	99.6	48.4	20.1	4.6	0.22	0.2	82.3	86.3	78.8
A	Day													
B	Avg Temp			(°F)				I	Avg Solar			(MJ.m <sup>2</sup> .day <sup>-1</sup> )		
C	Max Temp			(°F)				J	Avg Wind Speed			(mph)		
D	Min Temp			(°F)				K	Rainfall			(in)		
E	GDD			(base 50 °F)				L	Ref ET			(in day <sup>-1</sup> )		
F	Avg RH			(%)				M	Avg Soil Temp			(°F)		
G	Max RH			(%)				N	Max Soil Temp			(°F)		
H	Min RH			(%)				O	Min Soil Temp			(°F)		

Appendix B4. Weather data for the Georgetown REC site August 2019.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	76	89	65.9	27.5	86	99.9	51.8	21.2	3.5	0.72	0.19	81.6	86.2	78.6
2	73.8	81.8	69.2	25.5	94.1	100	69.7	10.9	2.3	0.6	0.1	78.9	81.1	77.5
3	77.1	86.1	68.4	27.3	84.6	100	60.3	23.8	2.8	0	0.19	79.9	83.9	76.4
4	77.7	87.4	69.2	28.3	86	100	59.4	20.4	3.7	0	0.18	80.9	84	78
5	77.1	87.6	71.4	29.5	87.6	99.9	53.4	15.4	2.3	0.02	0.14	80.8	83.2	78.6
6	77.3	87.3	71.4	29.3	84.9	99.8	58.1	20.4	4.1	0	0.18	81	83.8	78.6
7	78.1	89.2	69.9	29.6	86.6	99.5	60.4	20.1	7.6	0.29	0.19	81.1	84.3	78.8
8	77.7	88.3	67.3	27.8	79	100	46.3	22.2	4.4	0	0.2	80.4	84.1	77.1
9	77.3	87.9	69.9	28.9	78.5	99	47.2	19.5	3.3	0	0.18	80.5	83.5	77.8
10	73.5	81.7	63.2	22.5	68.5	97.1	42.7	19.8	4.7	0	0.18	78.6	80.7	76.2
11	73.2	84	61	22.5	68.2	97.6	37.6	24.9	3.1	0	0.2	77.6	81.4	74.1
12	74.4	86.8	59.2	23	74.6	99.8	49.1	21.4	4.4	0	0.19	77.2	80.7	73.4
13	77.1	84.3	71.1	27.7	88.7	99.4	70.4	10.2	6.4	0.61	0.11	77.9	79.5	76.2
14	78.7	88.3	72.3	30.3	90.4	100	67.6	16.8	4.7	0	0.15	79.8	82.8	77.4
15	74.6	81.6	69.5	25.5	90.4	100	72.3	14.9	4	0	0.12	79.3	81.5	77.2
16	77.1	86.4	69.4	27.9	89.3	100	68.4	17.8	4	0	0.15	79.6	82.8	77
17	78.8	89.5	72.9	31.2	89.6	100	66.1	16.9	3.2	0.46	0.15	80.5	83.2	78.1
18	80.6	89.7	74.4	32	85.7	100	58	18.1	4	0	0.17	81.2	84.5	78.7
19	80	95.3	73.7	34.5	88.8	100	48.9	17.4	4.4	0.57	0.19	81.6	85.2	79.3
20	78.7	89.5	72.8	31.2	87.8	100	52.3	12.9	2.7	0	0.13	81.1	83.2	79.2
21	78.8	89.1	71.4	30.3	85.3	98.2	55.7	18.9	7.2	0.02	0.19	80.9	83.6	78.7
22	80.8	91.2	70.9	31	78.8	100	48.2	20.8	5.7	0.18	0.21	81.5	84.7	78.6
23	71.6	80.4	64.3	22.4	90.2	99.8	72.8	9.1	5.7	0.62	0.09	79.7	82.1	77
24	68.4	76.3	62.3	19.3	79.1	98.9	50.1	16.2	5.1	0	0.14	76.6	78.6	75
25	66.7	75.7	56.6	16.1	82.5	98.2	56.7	18.4	8.5	0.06	0.15	74.4	77.1	71.8
26	68.6	73.6	62.7	18.1	82.9	97.3	66.2	11.9	7.9	0	0.11	74.6	76.1	73.3
27	69.1	76.4	60.1	18.3	89	99.5	72.7	12.1	4	0	0.1	73.9	76	71.6
28	75.2	82.7	68.6	25.7	84.9	99.6	62.2	12.7	4.7	0	0.12	75.9	78.2	73.9
29	72	82.7	61.5	22.1	72.9	98.7	35.4	22.5	6.5	0	0.21	76.2	79.1	73.8
30	73.2	87.5	58.4	22.9	69.5	99.3	34.5	21.6	4.9	0	0.2	74.6	78.1	71.2
31	73.8	85.6	64.7	25.1	82.1	98.5	58.5	20	4	0	0.16	75.6	79.1	72.5
A	Day													
B	Avg Temp			(°F)			I	Avg Solar			(MJ.m <sup>2</sup> .day <sup>-1</sup> )			
C	Max Temp			(°F)			J	Avg Wind Speed			(mph)			
D	Min Temp			(°F)			K	Rainfall			(in)			
E	GDD			(base 50 °F)			L	Ref ET			(in day <sup>-1</sup> )			
F	Avg RH			(%)			M	Avg Soil Temp			(°F)			
G	Max RH			(%)			N	Max Soil Temp			(°F)			
H	Min RH			(%)			O	Min Soil Temp			(°F)			

Appendix B5. Weather data for the Georgetown REC site September 2019.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	72.9	80.4	65.6	23	82.9	98.9	62.7	19.5	4.8	0	0.15	75.8	78.7	73.1
2	77	88.8	66.3	27.6	78.9	100	42.4	19.8	5.2	0	0.19	76.5	80	73.4
3	74	83.6	66.6	25.1	84.2	100	53.3	20.1	4.5	0	0.17	77.5	80.6	74.9
4	78	88.5	66.9	27.7	82.9	100	58.9	18.6	7	0	0.18	77.4	80.5	74.7
5	73.3	77.4	70.4	23.9	85.1	98.5	70.5	8.5	7.1	0	0.09	77.2	78.5	76.2
6	67.1	70.8	61.7	16.2	93.9	98.9	87.6	1.4	13.6	N/A	0.04	74.1	76.2	72.1
7	67.2	79.6	55.8	17.7	80.2	98.7	47.2	19.7	4.5	N/A	0.15	72.7	76.4	69.4
8	70	83	59.1	21	80	100	46.3	16.8	2.7	N/A	0.14	73	76.2	69.8
9	72	83.6	62.7	23.1	83.1	99.6	52	15.9	3.3	N/A	0.13	74.1	77.3	71.5
10	71.8	83	60.8	21.9	81.6	99.9	50.5	19	4.2	N/A	0.15	74	77.1	71.1
11	76.2	88.8	64	26.4	81.4	99.9	56.1	19.1	6.2	N/A	0.18	74.8	78.3	71.7
12	80.3	93.6	71.3	32.5	78.3	99.9	44.5	17.2	6.1	N/A	0.19	77.3	80.6	74.7
13	69.1	72.5	60.5	16.5	75.7	92.3	62.6	9.8	7.2	N/A	0.1	75.9	78.1	73.7
14	70.5	82.5	57.8	20.2	83.1	98.4	59.2	12.7	4.6	N/A	0.12	73.4	76	70.9
15	74.4	82.3	65.2	23.7	91.1	100	73.6	8.9	3.4	N/A	0.08	75.1	77.1	73.7
16	73.2	87.3	62	24.7	79.8	100	41.4	16.2	2.3	0	0.14	74.8	77.9	72.1
17	69.1	78.4	55.3	16.9	75.3	99.1	46.2	17	4.5	0.05	0.14	74.7	76.6	72.6
18	61.9	71.9	51.7	11.8	73.8	95.9	50.2	17.6	5.1	0	0.13	71.2	73.6	68.6
19	58.8	69.4	48.6	9	70.5	95.8	45.6	17.5	4.7	0	0.12	69.8	72.7	67.3
20	59.9	76.7	41.2	8.9	71.2	98.4	35.1	22.5	3.4	0	0.15	68.8	73.5	64.5
21	68.1	85.5	50.8	18.1	74.8	99.4	36.2	21.8	3.6	0	0.17	70.3	75.4	65.8
22	74.2	88.6	61.9	25.3	74	99	40.9	20.2	5.4	0	0.19	72.8	77.4	68.9
23	77.6	88.9	68.5	28.7	68.7	90.7	39.5	20	9	0	0.23	74.9	78.4	71.9
24	72.3	79.9	56.9	18.4	62.7	88.3	36.6	20.8	6.3	0	0.18	75.2	77.8	73
25	65.5	80.5	52.8	16.7	65.6	94.9	30.7	20.7	2.9	0	0.14	72.6	76.7	68.8
26	73.8	87.6	61.2	24.4	70.6	94.2	38.2	18.4	7.3	0	0.2	73.2	77.2	69.9
27	68.2	79.2	56.3	17.8	73.2	97.4	47.5	15.7	4.1	0	0.13	73.3	75.9	70.4
28	73.2	84.7	60.8	22.8	82.1	97.2	63.1	13.4	5.4	0	0.12	73	76.3	70.1
29	73.5	82.1	65.8	23.9	80.1	99.2	52.7	18.2	5.4	0	0.15	74.7	77.9	72.3
30	68.1	73.8	63.1	18.5	75.7	95.9	54.1	8.2	4.2	0	0.09	73	74.5	71.8
A	Day													
B	Avg Temp			(°F)				I		Avg Solar			(MJ.m <sup>-2</sup> .day <sup>-1</sup> )	
C	Max Temp			(°F)				J		Avg Wind Speed			(mph)	
D	Min Temp			(°F)				K		Rainfall			(in)	
E	GDD			(base 50 °F)				L		Ref ET			(in day <sup>-1</sup> )	
F	Avg RH			(%)				M		Avg Soil Temp			(°F)	
G	Max RH			(%)				N		Max Soil Temp			(°F)	
H	Min RH			(%)				O		Min Soil Temp			(°F)	