Trial Report: Seedless Watermelon Variety Evaluation 2015

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Production
Location: Tifton, GA
Entries: 32 varieties and advanced selections
Planting Date: Seeded on into 200 cell trays Feb 19. Transplanted 31 March.
Plant Spacing: 6' centers black TIF plastic mulch, 42" in-row spacing (2074 per acre pop.)
Plot size: 10 plants per plot (2-row plots with 5 plants per row) with 14' alleys between adjacent plots.
Fumigation: Trifecta applied in Feb. when plastic laid.

Fertility: 1000 lbs/acre 5-10-15 preplant under plastic with weekly fertigations with 7-0-7 of 12 lbs/N acre for a total of 170 lb/acre N. Magnesium sulfate applied through drip at fruit set at a rate of 3 lb/acre Mg.
Irrigation: 1 inch per week until full vine, then 2 inches per week, reduced to 1 inch per week in early June.
Herbicide: Between rows: Dual Magnum + Curbit + Valor, Select Max applied for grasses during season.
Pest Control: Weekly fungicide sprays according to UGA recommendations (+ copper for *Pseudomonas* after transplant). Imidacloprid at planting followed by bifenthrin + Lannate (squash bug), Agrimek (mites), and Venom during growth.
Pollenizer: SP-6 placed after every 3rd and 5th plant in a plot (4 per plot, 2/row).
Pollination Services: 2 bumblebee quads located in planting and 6 honeybee hives located approximately 500 feet from planting.

Data Collection
Stand count conducted: 20 April
Harvest Date: 16, 23, 29 June. A final harvest was conducted on 6 July, but fruit were too small to be marketable and were not included in results. Fruit were harvested when tendrils had turned brown and ground-spots were yellow. Each fruit was weighed and graded into 60, 45, 36, and 30-count classes. The following classes and weights were determined by the National Watermelon Research and Development Group to be used for watermelon variety trials to aid in unifying trial results:

60 count: 9-13.5 lb, 45 count: 13.6-17.5 lb, 36 count: 17.6-21.4 lb, 30 count: 21.5+ lb

Fruit from the first and second harvest (5 fruit per variety per replicate) were utilized for quality measurements. Average firmness was determined using an 11 mm probe with a hand-held firmness tester from 2 locations in 5 melons (10 readings) per replication. Average brix was obtained from a teaspoon sample of flesh from each of the 5 melon subset per replicate which was crushed using a hand-held lemon press and read using a hand-held refractometer. Average number of hard seed was determined by counting the total number of hard seed per 5-melon subsample. Each melon was quartered and the number of black, hard seed counted in all 4 quarters of each melon (pips were not included in this rating).

Average hollow heart was rated by slicing melons in half (length-wise) and ranking melons on a 0-5 scale (See Figure 1 below). On this scale: 0= no visible cracking in melons; 1 < 0.25 inch-wide, cracking in one direction, still marketable, 2 =0.25-0.5 inch, cracking in a single or multiple directions marketable; 3= 0.5-1.0 cracking in one or multiple directions, not marketable; 4 > 1.0 inch cracking in multiple directions with fruit center still intact, not marketable; and 5> 1.5 inch cracking with center cavity of fruit exposed. Statistics were conducted using SAS version 9.3. Proc GLM and Fisher's least significant test were conducted when appropriate. Subsampling procedures were used for firmness and hollow heart ratings.

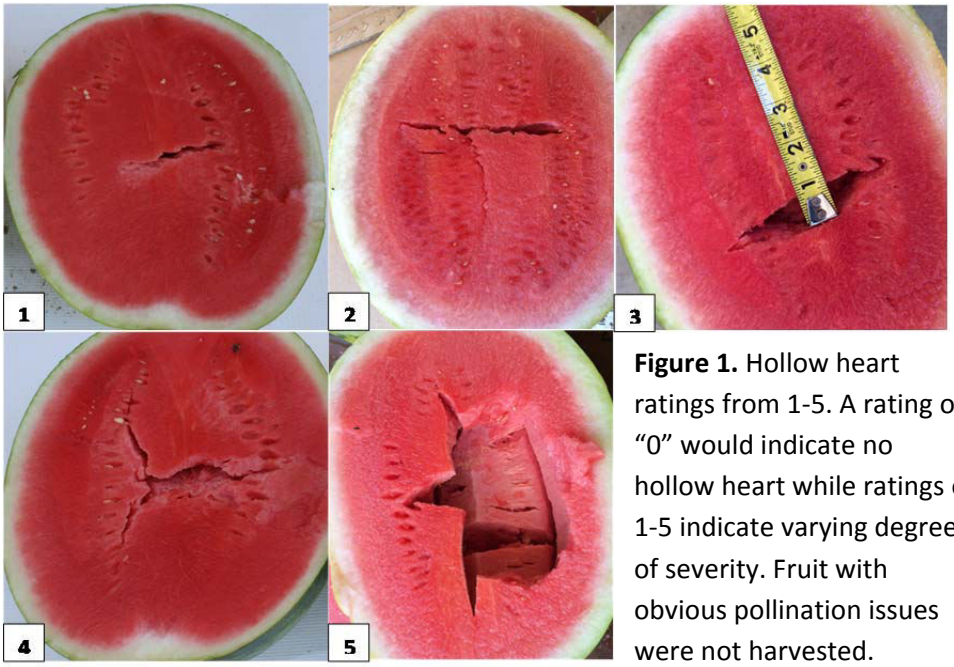

Figure 1. Hollow heart ratings from 1-5. A rating of "0" would indicate no hollow heart while ratings of 1-5 indicate varying degrees of severity. Fruit with obvious pollination issues were not harvested.

Table 1. Entries in the Spring 2015 Variety Trial.

Harris Moran	High Mark	Nunhems	Origene	Seminis	Siegers	Syngenta	Tri-Hishtil	US Agriseeds
Crunchy Red	7015	7167	Lucille	SV0241WA	Sweet Polly	Captivation	Grafted	USAWR11376
Troubadour	Razorback	7187 HQ	Maxima	SV7112WA		Exclamation	Fascination	USAWR11379
Traveler	Wolverine	7197 HQ	Talca	Joy Ride		Fascination		USAWX90020
		ACX 6177		Road Trip		Melody		
		Nun31208		Summer		Sugar Fresh		
		Warrior		Breeze		Sweet Dawn		
						TriX 313		

Results

Tables 2-10 show results for yield and quality data. Personal-size melons (USAWR11376 and USAWR11379) are not included in statistical analysis for yield with larger melons but were analyzed separately. For quality attributes all entries were analyzed together. The largest average fruit was SV7112WA at 19.1lb/fruit for all harvests, while the highest yielding variety was Summer Breeze at 141,860 lbs/acre. The variety with the highest yield of 60-ct fruit was Troubadour, and the variety with the greatest yield of 45-ct fruit was Melody. The variety with the most 36-ct fruit was Wolverine and the variety with the most 30-ct fruit was Sugar Fresh. Average fruit weights across nearly all varieties were higher in 2015 than in 2014 with much higher yields of 30-ct fruit. Average total yields were similar in 2014 and 2015. Quality data (Table 10) indicated that SV7112WA had the highest Brix content while Troubadour and Crunchy Red were firmest. Hard seed counts are based on total number of hard seed counted in all melons analyzed. Varieties with high numbers of seed present were typically the result of 1 or 2 fruit with hard seeds.

We would like to thank all participating companies for their continued support.

Pictures of new entries for 2015 available if desired.

Table 2. Total yield and average weight for watermelons grown in Tifton, GA 2015.												
Variety	Average Weight		Total Yield		60 Count		45 Count		36 Count		30 Count	
	(lbs)		(lbs/acre)									
Summer Breeze	17.8	a-d[z]	141860	a	14150	d-i	42830	b-g	38390	a-e	46490	a
Wolverine	17.9	a-d	138450	ab	14200	d-i	43890	a-f	56140	a	24220	a-d
Talca	16.8	c-g	134120	abc	22230	a-e	45750	a-d	40950	a-e	25190	a-d
Sugar Fresh	18.3	abc	132420	abc	15450	c-i	32800	b-g	37250	a-e	46930	a
Lucille	17.4	b-e	126280	abc	16240	bb-i	43730	a-f	35250	b-e	31070	a-d
7187 HQ	17.2	b-f	125860	abc	15770	c-i	41570	b-g	37010	a-e	31500	a-d
Melody	15.7	f-i	123620	abc	21180	a-f	63560	a	23400	cde	15480	bcd
ACX6177	17.5	a-e	121260	abc	14150	d-i	35760	b-g	42760	a-d	28590	a-d
7015	16.0	e-i	120960	a-d	25870	a-d	48640	abc	32760	b-e	13700	bcd
SV7112WA	19.1	a	118380	a-d	5760	i	23020	g	50130	ab	39470	ab
Joy Ride	18.6	ab	117870	a-d	7900	ghi	28120	d-g	45160	abc	36680	abc
USAWX90020	17.4	b-e	116240	a-d	14980	c-i	36620	b-g	41160	a-e	20480	a-d
Captivation	17.5	a-e	114180	a-d	9490	f-i	41880	b-g	45930	abc	16870	bcd
TriX 313	17.4	b-e	113290	a-d	11630	e-i	33330	b-g	45600	abc	22740	a-d
Traveler	15.5	ghi	110120	a-d	26410	abc	49340	abc	22070	e	12300	cd
Fascination	15.5	ghi	109630	a-d	22310	a-e	52940	ab	22990	de	11400	cd
Crunchy Red	17.7	a-d	108450	a-d	10030	f-i	34540	b-g	40730	a-e	23150	a-d
Nun31208	16.4	d-h	106290	a-d	17250	b-i	39890	b-g	26690	cde	22470	a-d
Razorback	17.1	b-g	106080	a-d	17770	b-h	30640	c-g	36180	a-e	21490	a-d
Sweet Polly	16.9	c-g	105960	a-d	14910	c-i	33090	b-g	37090	a-e	20870	a-d
Road Trip	16.6	d-h	105770	a-d	14920	c-i	39150	b-g	36540	a-e	15150	bcd
7197 HQ	17.3	b-e	105280	a-d	8560	ghi	38690	b-g	38140	a-e	19900	a-d
Exclamation	15.9	e-i	104780	a-d	19100	b-g	44270	a-e	30630	b-e	10780	cd
Sweet Dawn	18.4	abc	103320	bcd	9740	f-i	26930	efg	38400	a-e	28220	a-d
7167	16.4	d-h	102080	bcd	15710	c-i	42410	b-g	30410	b-e	13560	bcd
SV0241WA	15.1	ghi	101910	bcd	27890	ab	47316	a-d	21990	e	4740	d
Maxima	18.4	abc	100300	bcd	7470	ghi	27400	d-g	32230	b-e	33200	abc
Warrior	17.5	a-e	99890	cd	6990	hi	36410	b-g	41820	a-e	14670	bcd
Troubadour	14.7	i	99220	cd	31830	a	39820	b-g	23050	de	4510	d
Grafted Fascination	17.3	b-e	83060	d	7390	ghi	23780	gf	37240	a-e	14670	bcd

Personal Melons						
	Average Weight (lb)		Total Yield (lb/acre)		Yield Count (no./acre)	
USAWR11376	7.3	a	78010	a	10650	a
USAWR11379	7.4	a	75220	a	10300	a

[z]Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

Table 3. Yield in pounds and bins per acre for the first watermelon harvest. Varieties ranked in descending order based on total yield in lb/acre.

Variety	Total Yield	60 Count		45 Count		36 Count		30 Count		Percent 60 Count	Percent 45 Count	Percent 36 Count	Percent 30 Count
	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(%)			
Wolverine	40299	2	1264	13	9817	29	20380	13	8838	3	24	51	22
Lucille	38644	2	1483	18	12359	14	9855	21	14948	4	32	26	39
Melody	37413	5	3758	29	20030	10	6469	10	7155	10	54	17	19
Talca	36546	2	1218	18	12902	22	15281	9	7145	3	35	42	20
SV7112WA	36244	0	0	2	1729	28	19360	21	15155	0	5	53	42
Sweet Dawn	33400	2	1136	9	6772	18	12435	19	13057	3	20	37	39
Exclamation	32495	1	740	26	18668	16	11359	3	1728	2	57	35	5
7197 HQ	32358	0	0	14	9369	23	15862	10	7128	0	29	49	22
Joy Ride	31514	0	0	3	1981	20	13789	22	15745	0	6	44	50
7015	31347	2	1475	18	12655	13	8976	12	8240	5	40	29	26
Road Trip	30401	2	1143	17	11936	17	11661	8	5661	4	39	38	19
Warrior	29518	3	2002	15	10673	17	11316	8	5527	7	36	38	19
Maxima	29148	0	0	13	8888	15	10189	14	10072	0	30	35	35
Summer Breeze	28867	1	674	10	6779	16	10754	14	10660	2	23	37	37
ACX6177	28222	1	674	13	9160	13	9703	12	8685	2	32	34	31
Grafted Fascination	27848	2	1514	13	8720	18	12453	7	5161	5	31	45	19
7187 HQ	27721	3	2283	15	10176	13	9135	8	6128	8	37	33	22
Troubadour	26326	7	5306	20	13976	10	7043	0	0	20	53	27	0
Sweet Polly	24539	0	0	17	11678	16	10959	3	1901	0	48	45	8
USAWX90020	24120	1	669	7	4628	16	11306	10	7517	3	19	47	31
7167	23841	4	2781	7	5173	12	8685	10	7201	12	22	36	30
Fascination	22807	4	2665	16	11726	10	6750	2	1666	12	51	30	7
Razorback	22158	0	0	8	6339	17	11849	6	3969	0	29	53	18
Crunchy Red	21169	0	0	14	9692	10	6568	7	4908	0	46	31	23
Traveler	20646	4	3209	8	5926	6	4086	10	7425	16	29	20	36
TriX 313	19015	1	691	7	5057	14	9543	6	3723	4	27	50	20
Sugar Fresh	18463	0	0	4	2653	8	5560	14	10249	0	14	30	56
Nun31208	16906	0	0	12	8236	5	3186	7	5483	0	49	19	32
Captivation	14155	0	0	8	5979	10	6585	2	1590	0	42	47	11
SV0241WA	13513	3	1835	9	6284	6	4091	2	1302	14	47	30	10

Personal Melons

Variety	Avg. Wt. (lb)	Total Yield (lb/acre)	Yield Count (no./acre)
USAWR11376	8.5 a	6242 a	737 a
USAWR11379	8.5 a	5623 a	664 a

Table 4. Yield in pounds and bins per acre for the second watermelon harvest. Varieties ranked in descending order based on total yield in lb/acre.

Variety	Total Yield	60 Count		45 Count		36 Count		30 Count		Percent 60 Count	Percent 45 Count	Percent 36 Count	Percent 30 Count
	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(%)			
Summer Breeze	41084	0	0	17	11582	20	14120	22	15382	0	28	34	37
SV7112WA	39571	1	684	12	8219	18	12220	25	18447	2	21	31	47
Traveler	38506	10	7177	24	17055	17	11987	3	2287	19	44	31	6
Maxima	37517	1	823	10	7022	17	11591	24	18082	2	19	31	48
Exclamation	37063	6	4609	18	11917	22	15451	7	5086	12	32	42	14
7167	36258	3	2127	19	13784	24	16507	6	3839	6	38	46	11
SV0241WA	35623	4	3184	28	19296	15	10851	3	2292	9	54	30	6
ACX6177	35613	1	634	13	9168	22	15065	15	10746	2	26	42	30
Talca	35086	3	2061	14	9102	18	12548	15	11375	6	26	36	32
7187 HQ	34773	0	0	10	7511	17	11361	23	15901	0	22	33	46
Captivation	34234	2	1859	20	13994	18	11941	10	6440	5	41	35	19
Lucille	33432	4	2884	10	7502	18	12715	14	10331	9	22	38	31
7015	33361	4	3254	18	13192	16	11456	7	5459	10	40	34	16
Joy Ride	33091	0	0	8	6055	18	12719	20	14317	0	18	38	43
Wolverine	32953	0	0	11	7804	26	17987	9	7162	0	24	55	22
Troubadour	32083	17	12303	12	8463	10	6810	7	4507	38	26	21	14
Nun31208	31223	3	1846	13	9286	13	9349	16	10743	6	30	30	34
Sugar Fresh	30519	0	0	5	3878	12	8172	26	18469	0	13	27	61
Crunchy Red	29375	2	1645	6	4383	19	13066	14	10280	6	15	44	35
Melody	28863	6	3982	23	15733	10	7074	2	2074	14	55	25	7
7197 HQ	27803	0	0	8	5456	22	14881	11	7466	0	20	54	27
Sweet Dawn	26891	0	0	11	8224	15	10446	10	8221	0	31	39	31
Sweet Polly	26791	0	0	6	4736	17	11722	15	10333	0	18	44	39
Road Trip	26706	0	0	15	10796	13	9012	10	6899	0	40	34	26
Fascination	26194	1	809	24	16802	10	6937	2	1645	3	64	26	6
USAWX90020	26111	3	1890	15	10667	14	9654	6	3900	7	41	37	15
Razorback	24058	1	664	7	5043	13	9278	12	9073	3	21	39	38
TriX 313	21609	2	1158	6	4718	15	10567	7	5165	5	22	49	24
Warrior	17892	0	0	11	8130	14	9762	0	0	0	45	55	0
Grafted Fascination	17732	2	1438	6	4795	9	5907	8	5592	8	27	33	32

Personal Melons

Variety	Avg. Wt. (lb)	Total Yield (lb/acre)	Yield Count (no./acre)
USAWR11376	7.5 a	35419 a	4733 a
USAWR11379	7.5 a	32947 a	4395 a

Table 5. Yield in pounds and bins per acre for the third watermelon harvest. Varieties ranked in descending order based on total yield in lb/acre.

Variety	Total Yield	60 Count		45 Count		36 Count		30 Count		Percent 60 Count	Percent 45 Count	Percent 36 Count	Percent 30 Count
	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(bin/acre)	(lb/acre)	(%)			
Sugar Fresh	83433	21	15445	37	26264	34	23516	25	18209	19	31	28	22
TriX 313	72670	14	9780	33	23553	37	25492	19	13846	13	32	35	19
Summer Breeze	71909	19	13478	35	24473	19	13512	28	20446	19	34	19	28
USAWX90020	66008	17	12423	35	24328	29	20198	13	9059	19	37	31	14
Captivation	65790	11	7633	31	21910	40	27405	12	8842	12	33	42	13
Wolverine	65200	18	12933	38	26269	26	17774	11	8224	20	40	27	13
7187 HQ	63364	19	13491	36	23881	24	16518	13	9474	21	38	26	15
Talca	62487	27	18950	35	23749	19	13119	9	6669	30	38	21	11
Fascination	60633	27	18840	36	24407	14	9298	12	8089	31	40	15	13
Razorback	59859	24	17104	28	19252	21	15053	12	8450	29	32	25	14
Nun31208	58162	22	15406	32	22363	21	14155	9	6238	26	38	24	11
Crunchy Red	57906	12	8379	29	20463	31	21099	12	7964	14	35	36	14
ACX6177	57427	19	12844	25	17435	27	17988	12	9161	22	30	31	16
Melody	57339	19	13436	41	27799	14	9857	9	6247	23	48	17	11
7015	56252	30	21139	32	22788	18	12325	0	0	38	41	22	0
Sweet Polly	54628	21	14914	25	16670	21	14403	13	8640	27	31	26	16
Lucille	54204	17	11867	35	23869	19	12682	8	5786	22	44	23	11
Joy Ride	53259	11	7895	28	20087	27	18656	9	6621	15	38	35	12
SV0241WA	52778	32	22856	32	21735	11	7046	2	1141	43	41	13	2
Warrior	52478	7	4989	26	17609	30	20739	13	9141	10	34	40	17
Traveler	50968	23	16024	38	26357	9	6000	3	2587	31	52	12	5
Road Trip	48667	19	13781	24	16421	23	15871	4	2594	28	34	33	5
7197 HQ	45115	12	8558	33	23863	10	7393	8	5302	19	53	16	12
Sweet Dawn	43025	12	8606	17	11935	22	15542	9	6941	20	28	36	16
SV7112WA	42567	7	5070	19	13076	27	18550	9	5871	12	31	44	14
7167	41983	15	10798	34	23452	8	5212	3	2520	26	56	12	6
Troubadour	40806	21	14225	25	17380	13	9202	0	0	35	43	23	0
Grafted Fascination	37475	6	4433	15	10266	28	18881	5	3895	12	27	50	10
Exclamation	35220	20	13754	20	13688	6	3816	5	3961	39	39	11	11
Maxima	33634	10	6650	17	11486	15	10452	7	5046	20	34	31	15

Personal Melons

Variety	Avg. Wt. (lb)	Total Yield (lb/acre)	Yield Count (no./acre)
USAWR11376	7.0 a	36350 a	5180 a
USAWR11379	7.0 a	36653 a	5243 a

Table 6. Total yield for full size watermelons grown in Tifton, GA. Varieties ranked in order based on yield of 60 count fruit.

Variety	Total Yield		60 Count		45 Count		36 Count		30 Count	
	(lbs/acre)									
Troubadour	99220	cd[z]	31830	a	39820	b-g	23050	de	4510	d
SV0241WA	101910	bcd	27890	ab	47316	a-d	21990	e	4740	d
Traveler	110120	a-d	26410	abc	49340	abc	22070	e	12300	cd
7015	120960	a-d	25870	a-d	48640	abc	32760	b-e	13700	bcd
Fascination	109630	a-d	22310	a-e	52940	ab	22990	de	11400	cd
Talca	134120	abc	22230	a-e	45750	a-d	40950	a-e	25190	a-d
Melody	123620	abc	21180	a-f	63560	a	23400	cde	15480	bcd
Exclamation	104780	a-d	19100	b-g	44270	a-e	30630	b-e	10780	cd
Razorback	106080	a-d	17770	b-h	30640	c-g	36180	a-e	21490	a-d
Nun31208	106290	a-d	17250	b-i	39890	b-g	26690	cde	22470	a-d
Lucille	126280	abc	16240	bb-i	43730	a-f	35250	b-e	31070	a-d
7187 HQ	125860	abc	15770	c-i	41570	b-g	37010	a-e	31500	a-d
7167	102080	bcd	15710	c-i	42410	b-g	30410	b-e	13560	bcd
Sugar Fresh	132420	abc	15450	c-i	32800	b-g	37250	a-e	46930	a
USAWX90020	116240	a-d	14980	c-i	36620	b-g	41160	a-e	20480	a-d
Road Trip	105770	a-d	14920	c-i	39150	b-g	36540	a-e	15150	bcd
Sweet Polly	105960	a-d	14910	c-i	33090	b-g	37090	a-e	20870	a-d
Wolverine	138450	ab	14200	d-i	43890	a-f	56140	a	24220	a-d
Summer Breeze	141860	a	14150	d-i	42830	b-g	38390	a-e	46490	a
ACX6177	121260	abc	14150	d-i	35760	b-g	42760	a-d	28590	a-d
TriX 313	113290	a-d	11630	e-i	33330	b-g	45600	abc	22740	a-d
Crunchy Red	108450	a-d	10025	f-i	34540	b-g	40730	a-e	23150	a-d
Sweet Dawn	103320	bcd	9740	f-i	26930	efg	38400	a-e	28220	a-d
Captivation	114180	a-d	9490	f-i	41880	b-g	45930	abc	16870	bcd
7197 HQ	105280	a-d	8560	ghi	38690	b-g	38140	a-e	19900	a-d
Joy Ride	117870	a-d	7900	ghi	28120	d-g	45160	abc	36680	abc
Maxima	100300	bcd	7470	ghi	27400	d-g	32230	b-e	33200	abc
Grafted Fascination	83060	d	7390	ghi	23780	gf	37240	a-e	14670	bcd
Warrior	99890	cd	6990	hi	36410	b-g	41820	a-e	14670	bcd
SV7112WA	118380	a-d	5760	i	23020	g	50130	ab	39470	ab

[z] Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

Table 7. Total yield for full size watermelons grown in Tifton, GA. Varieties ranked in order based on yield of 45 count fruit.

Variety	Total Yield	45 Count	60 Count	36 Count	30 Count
	(lbs/acre)				
Melody	123620 abc[z]	63560 a	21180 a-f	23400 cde	15480 bcd
Fascination	109630 a-d	52940 ab	22310 a-e	22990 de	11400 cd
Traveler	110120 a-d	49340 abc	26410 abc	22070 e	12300 cd
7015	120960 a-d	48640 abc	25870 a-d	32760 b-e	13700 bcd
SV0241WA	101910 bcd	47316 a-d	27890 ab	21990 e	4740 d
Talca	134120 abc	45750 a-d	22230 a-e	40950 a-e	25190 a-d
Exclamation	104780 a-d	44270 a-e	19100 b-g	30630 b-e	10780 cd
Wolverine	138450 ab	43890 a-f	14200 d-i	56140 a	24220 a-d
Lucille	126280 abc	43730 a-f	16240 b-i	35250 b-e	31070 a-d
Summer Breeze	141860 a	42830 b-g	14150 d-i	38390 a-e	46490 a
7167	102080 bcd	42410 b-g	15710 c-i	30410 b-e	13560 bcd
Captivation	114180 a-d	41880 b-g	9490 f-i	45930 abc	16870 bcd
7187 HQ	125860 abc	41570 b-g	15770 c-i	37010 a-e	31500 a-d
Nun31208	106290 a-d	39890 b-g	17250 b-i	26690 cde	22470 a-d
Troubadour	99220 cd	39820 b-g	31830 a	23050 de	4510 d
Road Trip	105770 a-d	39150 b-g	14920 c-i	36540 a-e	15150 bcd
7197 HQ	105280 a-d	38690 b-g	8560 ghi	38140 a-e	19900 a-d
USAWX90020	116240 a-d	36620 b-g	14980 c-i	41160 a-e	20480 a-d
Warrior	99890 cd	36410 b-g	6990 hi	41820 a-e	14670 bcd
ACX6177	121260 abc	35760 b-g	14150 d-i	42760 a-d	28590 a-d
Crunchy Red	108450 a-d	34540 b-g	10025 f-i	40730 a-e	23150 a-d
TriX 313	113290 a-d	33330 b-g	11630 e-i	45600 abc	22740 a-d
Sweet Polly	105960 a-d	33090 b-g	14910 c-i	37090 a-e	20870 a-d
Sugar Fresh	132420 abc	32800 b-g	15450 c-i	37250 a-e	46930 a
Razorback	106080 a-d	30640 c-g	17770 b-h	36180 a-e	21490 a-d
Joy Ride	117870 a-d	28120 d-g	7900 ghi	45160 abc	36680 abc
Maxima	100300 bcd	27400 d-g	7470 ghi	32230 b-e	33200 abc
Sweet Dawn	103320 bcd	26930 efg	9740 f-i	38400 a-e	28220 a-d
Grafted Fascination	83060 d	23780 gf	7390 ghi	37240 a-e	14670 bcd
SV7112WA	118380 a-d	23020 g	5760 i	50130 ab	39470 ab

[z] Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

Table 8. Total yield for full size watermelons grown in Tifton, GA. Varieties ranked in order based on yield of 36 count fruit.

Variety	Total Yield	36 Count	45 Count	60 Count	30 Count
	(lbs/acre)				
Wolverine	138450 ab[z]	56140 a	43890 a-f	14200 d-i	24220 a-d
SV7112WA	118380 a-d	50130 ab	23020 g	5760 i	39470 ab
Captivation	114180 a-d	45930 abc	41880 b-g	9490 f-i	16870 bcd
TriX 313	113290 a-d	45600 abc	33330 b-g	11630 e-i	22740 a-d
Joy Ride	117870 a-d	45160 abc	28120 d-g	7900 ghi	36680 abc
ACX6177	121260 abc	42760 a-d	35760 b-g	14150 d-i	28590 a-d
Warrior	99890 cd	41820 a-e	36410 b-g	6990 hi	14670 bcd
USAWX90020	116240 a-d	41160 a-e	36620 b-g	14980 c-i	20480 a-d
Talca	134120 abc	40950 a-e	45750 a-d	22230 a-e	25190 a-d
Crunchy Red	108450 a-d	40730 a-e	34540 b-g	10025 f-i	23150 a-d
Sweet Dawn	103320 bcd	38400 a-e	26930 efg	9740 f-i	28220 a-d
Summer Breeze	141860 a	38390 a-e	42830 b-g	14150 d-i	46490 a
7197 HQ	105280 a-d	38140 a-e	38690 b-g	8560 ghi	19900 a-d
Sugar Fresh	132420 abc	37250 a-e	32800 b-g	15450 c-i	46930 a
Grafted Fascination	83060 d	37240 a-e	23780 gf	7390 ghi	14670 bcd
Sweet Polly	105960 a-d	37090 a-e	33090 b-g	14910 c-i	20870 a-d
7187 HQ	125860 abc	37010 a-e	41570 b-g	15770 c-i	31500 a-d
Road Trip	105770 a-d	36540 a-e	39150 b-g	14920 c-i	15150 bcd
Razorback	106080 a-d	36180 a-e	30640 c-g	17770 b-h	21490 a-d
Lucille	126280 abc	35250 b-e	43730 a-f	16240 b-i	31070 a-d
7015	120960 a-d	32760 b-e	48640 abc	25870 a-d	13700 bcd
Maxima	100300 bcd	32230 b-e	27400 d-g	7470 ghi	33200 abc
Exclamation	104780 a-d	30630 b-e	44270 a-e	19100 b-g	10780 cd
7167	102080 bcd	30410 b-e	42410 b-g	15710 c-i	13560 bcd
Nun31208	106290 a-d	26690 cde	39890 b-g	17250 b-i	22470 a-d
Melody	123620 abc	23400 cde	63560 a	21180 a-f	15480 bcd
Troubadour	99220 cd	23050 de	39820 b-g	31830 a	4510 d
Fascination	109630 a-d	22990 de	52940 ab	22310 a-e	11400 cd
Traveler	110120 a-d	22070 e	49340 abc	26410 abc	12300 cd
SV0241WA	101910 bcd	21990 e	47316 a-d	27890 ab	4740 d

[z] Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

Table 9. Average fruit weight at each harvest and average percent per count for watermelons grown in Tifton, GA in Spring 2015.

Variety	Avg. Fruit Weight (total)	Avg. Fruit Wt. (harvest 1)	Avg. Fruit Wt. (harvest 2)	Avg. Fruit Wt. (harvest 3)	60 count	45 count	36 count	30 count
	(lbs)				%			
SV7112WA	19.1	20.9	20.3	17.1	5	19	42	33
Joy Ride	18.6	20.5	20.6	16.6	7	24	38	31
Maxima	18.4	19.2	20.4	15.9	7	27	32	33
Sweet Dawn	18.4	19.8	19.8	16.9	9	26	37	27
Sugar Fresh	18.3	19.7	21.5	17.1	12	25	28	35
Wolverine	17.9	19.7	19.7	16.1	10	32	41	17
Summer Breeze	17.8	19.3	19.5	16.6	10	30	27	33
Crunchy Red	17.7	18.6	19.1	16.8	9	32	38	21
Captivation	17.5	17.8	17.6	17.4	8	37	40	15
Warrior	17.5	18.0	17.6	17.2	7	36	42	15
ACX6177	17.5	19.1	19.7	15.8	12	29	35	24
Lucille	17.4	19.0	18.9	15.8	13	35	28	25
USAWX90020	17.4	19.4	17.5	16.8	13	32	35	18
TriX 313	17.4	18.2	19.3	16.6	10	29	40	20
7197 HQ	17.3	18.6	18.5	15.9	8	37	36	19
Grafted Fascination	17.3	18.3	16.7	16.3	9	29	45	18
7187 HQ	17.2	17.4	19.7	16.0	13	33	29	25
Razorback	17.1	19.3	19.8	15.7	17	29	34	20
Sweet Polly	16.9	17.5	20.1	15.7	14	31	35	20
Talca	16.8	18.5	18.8	15.3	17	34	31	19
Road Trip	16.6	17.4	19.3	15.3	14	37	35	14
7167	16.4	17.9	17.6	14.9	15	42	30	13
Nun31208	16.4	18.0	18.2	15.0	16	38	25	21
7015	16	19.1	17.3	14.6	21	40	27	11
Exclamation	15.9	16.9	17.0	14.1	18	42	29	10
Melody	15.7	16.8	15.5	15.4	17	51	19	13
Fascination	15.5	16.9	16.8	14.4	20	48	21	10
Traveler	15.5	17.7	15.9	14.7	24	45	20	11
SV0241WA	15.1	18.0	16.5	13.9	27	46	22	5
Troubadour	14.7	15.5	14.5	14.3	32	40	23	5

Table 10. Average firmness, brix, hollow heart and hard seed ratings for watermelons grown in Tifton, GA in Spring 2015.

Variety	Brix	Firmness[z]	Hollow Heart[y]	Hard Seed[x]
	(%)	(lbs)	(0-5)	(Total no.)
SV7112WA	12.6 a	3.19 c-g	0.30 d-g	3
Wolverine	12.3 ab	3.53 a-e	0.70 c-g	73
TriX 313	12.3 ab	3.16 c-g	0.25 efg	3
Joy Ride	12.2 a-c	3.62 abc	0.60 c-g	1
7015	12.2 a-d	3.65 abc	0.50 c-g	2
7167	12.0 a-e	3.24 b-f	0.85 c-f	19
7187 HQ	12.0 a-e	3.29 b-f	0.45 d-g	1
Summer Breeze	12.0 a-e	3.29 b-f	0.15 fg	3
ACX 6177	12.0 a-e	3.65 abc	0.10 fg	2
Razorback	11.9 a-e	3.47 a-f	0.55 c-g	0
Road Trip	11.9 a-e	3.61 abc	0.10 fg	6
Exclamation	11.9 a-e	3.17 c-g	0.00 g	27
Troubadour	11.8 a-e	3.84 a	0.40 d-g	11
SV0241WA	11.7 a-e	3.40 a-f	0.40 d-g	4
Traveler	11.7 b-e	3.66 abc	0.05 fg	4
Sweet Dawn	11.6 b-f	3.44 a-f	0.15 fg	56
Talca	11.6 b-f	2.97 fgh	0.00 g	10
Warrior	11.5 b-f	3.19 c-g	0.65 c-g	4
Sugar Fresh	11.5 b-f	3.30 b-f	0.50 c-g	0
7197 HQ	11.5 b-f	3.65 abc	0.25 efg	0
Crunchy Red	11.5 b-f	3.74 ab	0.20 efg	7
USAWR11379	11.4 c-f	2.58 h	2.15 a	23
Fascination	11.4 c-f	3.00 d-g	1.85 ab	43
USAWX90020	11.4 c-f	2.98 e-g	1.10 bcd	2
Sweet Polly	11.4 c-f	3.28 b-f	0.85 c-f	3
Nun31208	11.3 def	3.16 c-g	0.60 c-g	23
Melody	11.3 c-f	2.66 gh	0.55 c-g	4
Grafted Fascination	11.2 ef	3.25 b-f	1.30 abc	29
USAWR11376	11.1 ef	3.13 c-g	1.00 cde	15
Captivation	11.1 ef	3.19 c-g	0.20 efg	9
Lucille	10.8 f	2.93 fgh	0.60 c-g	12
Maxima	10.7 f	3.54 a-d	0.00 g	9

[z]Firmness is the average of 10 readings per replication and 4 replications (40 total readings per variety) using a Wagner hand-held firmness tester.

[y]Hollow Heart determined using the rating scale in Figure 1. Values represent the average of 5 fruit per replication and 4 replicates (20 fruit total).

[x]Hard seed counts represent the *total* number of seed counted in 4 quarters of 5 melons per replicate with 4 replicates (80 quarters of fruit). This is not the average but total number for each variety.

Trial Report: Cantaloupe Variety Evaluation 2015

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Contents

We would like to thank participating companies for their support.

Production
Location: Tifton, GA
Entries: 9 Cantaloupes (Eastern, Western, LSL) 1 honeydew
Planting date: Seeded into 200 cell trays on 25 Feb. Transplanted 24 March.
Plant Spacing: 6' centers black polyethylene mulch (42- inch wide plastic), 22-inch in-row spacing (3967 per acre pop.)
Plot Size: 12 plants per plot (single row) with 8 foot alleys between adjacent plots in-row
Fumigation: None
Fertility: 1000 lbs 5-10-15 under plastic when laid. Overhead irrigation used 2 sidedress applications of calcium nitrate at 45 lb/acre N each (140 lbs N total). Irrigation approximately 1.5 inch per week.
Herbicide: Curbit broadcast preplant. Select Max used for grasses.
Pest Control: Weekly fungicide sprays according to UGA recommendations. Imidacloprid at planting followed by bifenthrin during growth.
Pollination Services: 1 bumblebee quad located in planting.

Data Collection

Stand count conducted 20 April.

Harvests conducted: 65, 69, 71, 74, 77, 81, 84, 88 days after transplant.

Fruit weighing less than 2 lbs were discarded. Fruit were harvested at ¼ slip on eastern melons, while LSL melons were cut when netting reached the stem. Western melons and honeydews were cut after testing representative fruit in plots. Fruit were placed into the following groups for boxes:

15 count:-2.35-3.00 lbs; 12 count: 3.01-3.89 lbs; 9 count: 3.90 lbs-5.60 lbs; 6 count >5.61 lbs

Fruit from the 2-5th harvests were utilized for quality measurements. Average firmness was determined using an 8 mm probe with a hand-held firmness tester from 2 locations on 4 melons (8 readings) per replication. Average brix was obtained from teaspoon sample of flesh from each of the 4 melon subsets from each replicate which was crushed using a hand-held lemon press and read using a hand-held refractometer. Statistics were conducted using SAS Version 9.3. Proc GLM and Fisher's least significant test were conducted when appropriate. Subsampling procedures were used for firmness ratings.

Table 1. Entries in Trial

Harris Moran	Hollar	Sakata	Seminis	Syngenta	US Agriseeds
Fiji (LSL)	EarliChamp (E)	Atlantis (E)	SV5196MF	Athena (E)	USAMR15336
	Grand Slam (E)			Aphrodite (E)	Full Moon (H)
	Yuma Grande (W)				

E-eastern, W-western, LSL-long shelf life, H-honeydew

Results

Yields were highest in 'Athena', though statistically they were not significantly different from 'USAMR15336', 'Grand Slam', 'Atlantis', and 'Yuma Grande'. 'Athena, 'Grand Slam', and 'Atlantis' are all eastern shipping type melons, while 'Yuma Grande' is a western style melon. The highest yielding variety in the 15 and 12 count categories was 'USAMR15336, while 'Atlantis' and 'Athena' were the highest yielding varieties in the 9 count category with 460 and 450 boxes per acre, respectively. Yields of 6 count boxes were low overall, with 'Atlantis' and 'Yuma Grande' having the greatest number of boxes per acre (70) of 6 count melons. Melons overall were smaller than in previous years with average fruit weight ranging from 4.3 lb/fruit for 'Atlantis' to 2.7 lb/fruit for 'Fiji', 'Earlichamp', and 'SV5196MF'. 'Full Moon', a honeydew included in the trial, had an average weight of 2.9 lb/fruit. Average brix was highest in 'USAMR15336' and 'SV5196 MF' with 12.7% and 12.4%, respectively. For cantaloupes, 'Fiji' was clearly the firmest melon with an average firmness reading of 10.9 lbs force compared to 4.1 lbs force in 'Athena'. When yield per harvest was determined, 'Earlichamp' was clearly the earliest maturing melon, followed by 'Aphrodite'. It should be noted that the yields for the harvest conducted at 74 days post-transplant were low, likely due to poor weather during the corresponding period of fruit set earlier in the season. 'Fiji' was the latest maturing cantaloupe, followed by 'Yuma Grande'. 'Full Moon' was the latest of any melon trialed with more than half of the fruit being harvested on the final (88 day post-transplant) date.

Table 2. Total yield in (40 lb) boxes and weight per acre. *Note that due to rounding to maintain significant digits (to nearest ten boxes or lbs) boxes per acre and lbs per acre may not always match exactly they would if no rounding were done.*

Variety	Total Yield		15 Count				12 Count				9 Count				6 Count			
	lb/acre		Boxes/acre		lb/acre		Boxes/acre		lb/acre		Boxes/acre		lb/acre		Boxes/acre		lb/acre	
Athena	30440	a	60	d	2540	d	180	abc	7430	abc	450	a	18970	a	40	a	1490	a
USAMR15336	29879	a	260	a	10620	a	220	a	9120	a	210	bc	8100	cde	60	a	2040	a
Grand Slam	29720	a	120	bcd	4970	bcd	180	ab	7420	abc	390	ab	15830	ab	40	a	1510	a
Atlantis	27760	ab	50	d	2140	d	100	bcd	4070	bcd	460	a	19160	a	70	a	2400	a
Yuma Grande	27730	ab	110	bcd	4610	bcd	130	a-d	5290	a-d	390	ab	15430	abc	70	a	2400	a
Aphrodite	21200	bc	80	cd	3180	cd	200	ab	8400	ab	230	bc	9140	bcd	10	a	480	a
EarliChamp	17740	cd	230	ab	9200	ab	50	d	1870	d	170	cd	6670	def	0	a	0	a
SV5196MF	11640	de	200	abc	7540	abc	80	cd	3240	cd	20	d	870	ef	0	a	0	a
Fiji	9230	e	170	a-d	6490	a-d	60	d	2420	d	10	d	320	f	0	a	0	a
Full Moon	22210	abc	280	a	10783	a	180	abc	7230	abc	110	cd	4200	def	0	a	0	a

Table 3. Average melon weight, brix, and firmness.

Variety	Avg. Wt.		Brix		Firmness	
	lb		%		lb Force[z]	
Atlantis	4.3	a	10.2	bc	3.4	de
Athena	4.1	ab	11.1	ab	4.1	de
Yuma Grande	3.9	ab	9.0	c	4.5	d
Grand Slam	3.8	bc	11.3	ab	6.1	c
Aphrodite	3.8	bc	11.6	ab	3.6	de
USAMR15336	3.4	c	12.7	ab	8.7	b
EarliChamp	2.7	d	11.7	ab	3.1	e
Fiji	2.7	d	11.9	ab	10.9	a
SV5196MF	2.7	d	12.4	a	6.8	c
Full Moon	2.9	d	10.4	bc	10.0	a

[z]Firmness determined using an 8 mm probe.

Table 4. Yield by harvest date.

	Percent harvested at each harvest date (%)							
Variety	**65[z]**	**69**	**71**	**74**	**77**	**81**	**84**	**88**
Athena	3.2	17.4	12.6	4	30.3	14.7	7.3	10.6
SV5196MF	1.5	27.7	38.7	6.1	3.7	10.0	6.9	5.4
Atlantis	0.0	2.0	9.2	19.8	9.2	36.9	21.4	1.6
Earlichamp	25.9	45.6	6.2	6.8	8.2	4.6	2.7	0.0
Grand Slam	2.3	23.6	24.8	14.7	8.3	8.0	11.9	6.3
Yuma Grande	0.9	18.8	27.4	17.2	10.4	6.6	14.4	4.4
USAMR15336	0.0	0.0	0.0	0.0	38.9	5.2	18.9	37.0
Fiji	0.0	0.0	0.0	0.0	6.4	42.9	50.7	0.0
Aphrodite	15.9	30.2	8.1	7.6	21.1	13.7	3.5	0.0
Full Moon	0.0	0.0	0.0	0.0	0.0	25.1	21.9	53.0

[z]Days from transplanting.

Figure 1. Melons included in trial.


USAMR15336


Fiji


Aphrodite


Full Moon

Trial Report: UGA Snap bean trial Spring 2016

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Production
Location: Tifton, GA
Entries: 13 snap bean varieties + *2 non-commercial varieties not included in report*.
Planting Date/Spacing: Seeded on 24 Mar. at a population of 97,887 seeds/acre (1.78 inches in row spacing) with 36" row spacing.
Plot size: 70-feet total (2 rows of 35-feet each) with 10-foot alleys between adjacent plots. Four replicates of each variety were planted in a randomized complete block design.
Fertility: 1000 lbs/acre 5-10-15 preplant broadcast with 2 subsequent applications of calcium nitrate (25 lbs/acre N each). Calcium nitrate applied 1 week prior to flowering and at fruit set. A season total of 100 lbs/acre N was applied.
Irrigation: Overhead irrigation at 1-1.25 inches per week.
Herbicide: Preplant incorporated Treflan with 8 oz/acre Dual Magnum broadcast immediately after planting. Heavy rains were expected the day after planting so a low rate of Dual Magnum was used to reduce any chance of injury. Two subsequent cultivations with conducted with Basagran applied after second cultivation.
Pest Control: Weekly fungicide sprays according to UGA recommendations and insecticide sprays as needed.

Data Collection
Harvests: 20 and 23 May. Relative maturity and vigor were estimated on 17 May. Beans in this report were harvested on 20 May (57 days after planting). Beans were mechanically harvested and planted in a randomized complete block design; therefore, most had to be picked on the same day to avoid damaging adjacent beans. A single row Pixall bean harvester was used to pick beans.

Grading: Beans were washed and graded by hand and using a shaker table (Figure 1) to remove pin beans, broken beans and curved beans. Field yields and graded yields were then obtained. For determining yield a bushel box was estimated to contain 28 lbs of beans (30 lb market weight – weight of box).

Statistics: SAS version 9.3 was utilized. Data was subject to the GLM procedure and Fisher's Least Significance test.

Table 1. Entries in the 2016 snap bean trials			
Abbott and Cobb	**Harris Moran**	**Seminis**	**Syngenta**
Dominator	Caprice	Sybaris	Achiever
	Colter	Valentino	Momentum
	HMX5106	BA1006	
	HMX5107	BA0958	
		SV1137GF	
		SV3231GG	

Figure 1. (From top left) Bean plot on 30 days after planting. Harvest using a 1-row mechanical picker, grading with a shaker table.

Results.

Vigor ratings were differed among varieties (Table 2). Vigor was determined on a 1-9 scale with 5 being "average" for a snap bean, 9 being extremely vigorous and 1 being poor vigor. Most beans were near "average", with vigor ranging from 4.75 to 7.0. Relative maturity was not analyzed statistically, but was included as an estimate of days to harvest. For this measurement the variety 'Caprice' was used as the baseline and varieties were given a +1 or -1 if they were 1 day ahead or 1 day behind 'Caprice' respectively (Table 2). Beans were harvested at 57 days after planting.

Non-graded yields ranged from 153 - 227 bushels per acre. 'Colter' was the highest yielding variety in the field and after grading but it was not statistically different from 8 other varieties. It should be noted that beans were washed prior to obtaining the field or non-graded weights. The removal of dirt from the beans resulted in an approxmiate 5-10% difference in weight compared to immediately after harvest. The percentage pack out ranged from 74-84%. For a few varieties the percent packout reduced their relative standing for marketable yield compared to field yields; however usually this difference was minor.

Table 2. Vigor ratings and relative maturity of varieties. Ratings conducted at 54 days after planting.

Variety	Vigor (1-9)		Average Relative Maturity (+ or – days)[y]
HMX5106	7.3	a[z]	-1.75
Colter	6.5	ab	0
Achiever	6.3	ab	+0.25
Momentum	6.3	ab	-0.50
SV3231GG	6.0	ab	-1.50
SV1137GF	6.0	ab	-0.75
BA0958	5.8	ab	-1.75
Dominator	5.8	ab	-1.25
BA1006	5.8	ab	-0.75
HMX5107	5.5	ab	0
Valentino	5.3	ab	+0.75
Caprice	5.3	ab	0
Sybaris	4.8	b	-3.0

[z]Numbers within the same column followed by the same letter(s) are not significantly different at P<0.05 according to Fisher's Least Significant Difference Test.

[y]Relative maturity is the average estimate of all 4 replicates and therefore may not result in a whole number of days. Maturity was estimated to be when the majority of beans were sieve size 4 or greater.

Table 3. Field and graded yields for snap bean variety grown in Tifton, GA in Spring 2016.

	Bushels/Acre[z]				(%)	
Variety	Field Yields[y]		Graded Yields		Percent Pack Out	
Colter	227	a[x]	190	a	83.3	ab
HMX5107	225	ab	181	abc	80.1	a-d
SV1137GF	223	abc	182	ab	81.7	abc
Momentum	211	a-d	165	a-e	78.2	cde
Caprice	210	a-d	173	a-d	82.0	abc
Dominator	197	a-d	159	a-e	80.4	a-d
Achiever	184	a-d	146	a-e	80.0	bcd
BA1006	172	a-d	141	a-e	82.3	abc
HMX5106	167	bcd	123	e	74.1	ef
Sybaris	164	cd	131	de	80.4	a-d
BA0958	163	cd	132	de	80.5	a-d
Valentino	157	d	132	cde	84.6	a
SV3231GG	153	d	129	de	84.0	ab

[z]Bushels calculated based on 28 lbs of bean.

[y]Field yields were taken after washing.

[x]Numbers within the same column followed by the same letter(s) are not significantly different at P<0.05 according to Fisher's Least Significant Difference Test.

2014 Spring and Fall Squash and Zucchini Trial Report Provided by The University of Georgia, Tifton, GA.

Trial Report: Squash and Zucchini Variety Evaluation Spring and Fall 2014

Conducted by:
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Methods

Location: Tifton, GA
Planting Date: Two-week old transplants planted on 28 Mar. and 18 Aug. 2014
Plant Spacing: 6' centers plastic mulch, 12" in-row spacing (7,260 per acre population)
Plot size: 12 plants per plot with 5 foot alleys between adjacent plots
Plastic mulch: Black, TIF plastic in spring, White on black, TIF plastic in fall
Fumigation: Pic-Chlor 60 applied in February and July when plastic was laid
Fertility: 1000 lbs/acre 5-10-15 preplant in spring and 10-10-10 in fall. Then 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 in spring and 172 lbs N acre in fall.
Herbicide: Between rows- Dual II Magnum + Curbit (Sonalan) + Valor + Round Up
Pest Control: Weekly fungicide sprays according to UGA recommendations (+ copper), Imidacloprid at planting (spring), Venom and Coragen and Agrimek (spring only) applied during growth.
Bees: 3 honeybee hives located approximately 500 feet from planting.
Stand Count conducted: 22-May and 13 Oct. 2014
Harvests (12) Dates: Spring 5, 7, 10, 12, 14, 16, 19, 21, 23, 26, 28, 30 May; Fall 8, 10, 12, 15, 17, 19, 22, 24, 26, 30, Sept. and 3, 6 Oct.
Grading: Squash graded into Fancy (US no. 1) and Medium size categories. Fancy squash weighed approximately 0.35 lb each, while medium fruit weighed approximately 0.65 lb each. Fruit we culled for misshapenness, virus symptoms, disease (choanephora rot), and poor color. Cull rates were high in fall primarily due to misshapen fruit. Cull rates escalated near harvest number 5 in the fall, remaining high until termination.

Table 1. Entries included in the 2014 trials.

Abbott and Cobb	Harris Moran	Seminis	Syngenta
Cosmos	Lioness	Conqueror III	Gentry
Precious II	Cheetah	SV6009YG	Enterprise
Solstice	Esteem	Justice III	Gold Star
	Respect		Spineless King
	Reward		Spineless Beauty
			Paycheck
			Payload

Results

Spring yields were higher for both squash and zucchini than in fall. This was due to the higher cull rates in the fall, which were generally the result of virus damage, which was minimal except for Precious II and Gentry or misshapen fruit. Misshapen fruit were more prevalent in the fall. For yellow squash, Gentry was the highest yielder in both spring and fall, followed by Solstice. Respect was the highest yielding zucchini the fall and was attractive throughout. Reward also looked promising, but in both seasons poor germination limited the planting to a single replication. Yield data are presented as fruit per acre. Yield over time is presented as number of Fancy fruit per acre per harvest.

Weather Data in Appendix A.

Table 1. Yellow squash yields for spring 2014 in Tifton, GA.

	Total Yield		Fancy Yield		Medium Yield		Cull	
Variety[z]			(fruit/acre)[z]				(%)[y]	
Gentry	120290	a	92900	a	27390	a	5.5	b
Solstice	108900	ab	84580	ab	24320	ab	7.1	ab
Precious II	99620	bc	76750	bc	22870	ab	9.5	a
Cosmos	97730	bc	67310	c	30420	ab	7.9	ab
Conqueror III	91480	bc	67700	c	23780	ab	5.7	b
Gold Star	88560	c	67620	c	20950	b	8.8	ab
Lioness	88390	c	62620	c	25780	ab	7.4	ab
Cheetah	86860	c	62200	c	24660	ab	7.4	ab
Enterprise	84780	c	62700	c	22080	ab	9.7	a

[z]Yield based on average fancy fruit medium fruit graded and counted. Yield determined by dividing the fruit harvested by the plot stand (12 plants) and multiplying by a plant population 7260 plants per acre. 12 harvests were conducted. Due to conserving significant digits and rounding total number of fruit may not be the exact sum of fancy and medium fruit.

[x]Cull percentage based on number of cull fruit divided by total number of fruit harvested.

Table 2. Yellow squash yields for Fall 2014 in Tifton, GA.

	Total Yield		Fancy Yield		Medium Yield		Cull		Reason for culling[x]
Variety[z]			(fruit/acre)[z]				(%)[y]		
Gentry	93070	a	77940	a	15140	ab	17.2	ef	viral symptoms
Solstice	79780	b	61680	b	18100	ab	17.2	ef	shape
Conqueror III	78050	bc	58320	bc	19720	a	18.8	def	"sutures" on fruit
Cosmos	71900	bcd	56550	bcd	15350	ab	27.9	b	shape
Gold Star	65770	cde	53390	bcd	13380	b	13.2	f	sponginess in tip
Enterprise	63370	de	79710	cde	13670	b	25.1	bcd	poor shape, ridging
Lioness	61710	de	46590	de	15130	ab	25.9	bc	shape – ridging and *significant* crooking
Cheetah	54460	e	40100	ef	14370	ab	20.0	cde	shape
Precious II	40980	f	33590	f	7380	c	49.9	a	significant viral symptoms

[z]Yield based on average fancy fruit medium fruit graded and counted. Yield determined by dividing the fruit harvested by the plot stand (12 plants) and multiplying by a plant population 7260 plants per acre. 12 harvests were conducted. Due to conserving significant digits and rounding total number of fruit may not be the exact sum of fancy and medium fruit.

[y]Cull percentage based on number of cull fruit divided by total number of fruit harvested.

[x]Culls were higher in fall than in spring, consistent reasons for culling were noted.

Table 3. Zucchini yields for Spring 2014 in Tifton, GA.								
	Total Yield		Fancy Yield		Medium Yield		Cull	
Variety	(fruit/acre)[z]						(%)[y]	
SV6009YG	77890	a	48200	a	29700	a	8.3	ab
Respect	67090	ab	45090	a	22000	ab	12.8	a
Justice III	55960	b	37850	a	18110	bc	11.1	a
Esteem	37030	c	26140	b	10890	c	1.9	c

[z]Yield based on average fancy fruit medium fruit graded and counted. Yield determined by dividing the fruit harvested by the plot stand (12 plants) and multiplying by a plant population 7260 plants per acre. 12 harvests were conducted. Due to conserving significant digits and rounding total number of fruit may not be the exact sum of fancy and medium fruit.

[x]Cull percentage based on number of cull fruit divided by total number of fruit harvested.

Table 4. Zucchini yields for Fall 2014 in Tifton, GA.									
	Total Yield		Fancy Yield		Medium Yield		Cull		Reasons for culling[w]
Variety[z]			(fruit/acre)[y]				(%)[x]		
Respect	66930	a	47440	a	19500	a	12.9	d	some bulbing at tip
SV6009YG	58900	b	40604	b	17490	ab	15.0	cd	some bulbing at tip
Payload	57120	b	42280	ab	14850	abc	18.1	bcd	
Paycheck	48400	c	32370	c	16030	ab	22.0	bc	ridging and pale late
Esteem	41700	cde	28350	c	13350	bc	21.0	bc	
Justice III	39630	def	26620	dc	13010	bc	34.3	a	pointed tip, shape
Spineless King	34580	ef	19340	de	15250	abc	35.6	a	shape (ridging), curving
Spineless Beauty	32110	f	21330	de	10780	c	27.9	b	shape (ridging) , curving, pale color late

[z]The variety *Reward* was also included in this trial but due to seed issues only 1 replication was included and therefore the data was not included in the statistical analysis. The total yield of this 1 plot was 28,710 lbs/acre with 16,520 lbs/acre fancy fruit.

[y]Yield based on average fancy fruit medium fruit graded and counted. Yield determined by dividing the fruit harvested by the plot stand (12 plants) and multiplying by a plant population 7260 plants per acre. 12 harvests were conducted. Due to conserving significant digits and rounding total number of fruit may not be the exact sum of fancy and medium fruit.

[x]Cull percentage based on number of cull fruit divided by total number of fruit harvested.

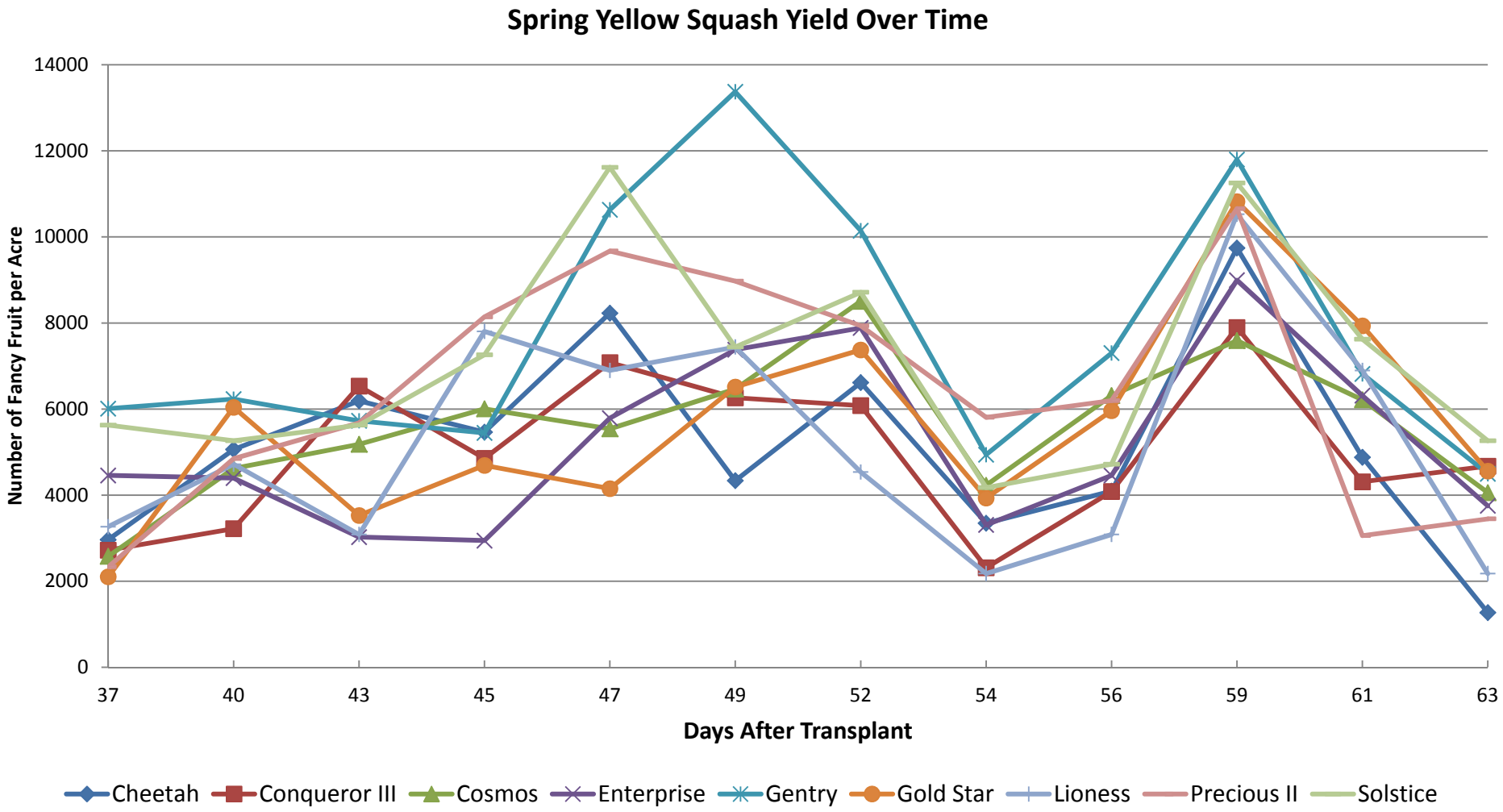
[w]Culls were higher in fall than in spring, consistent reasons for culling were noted.

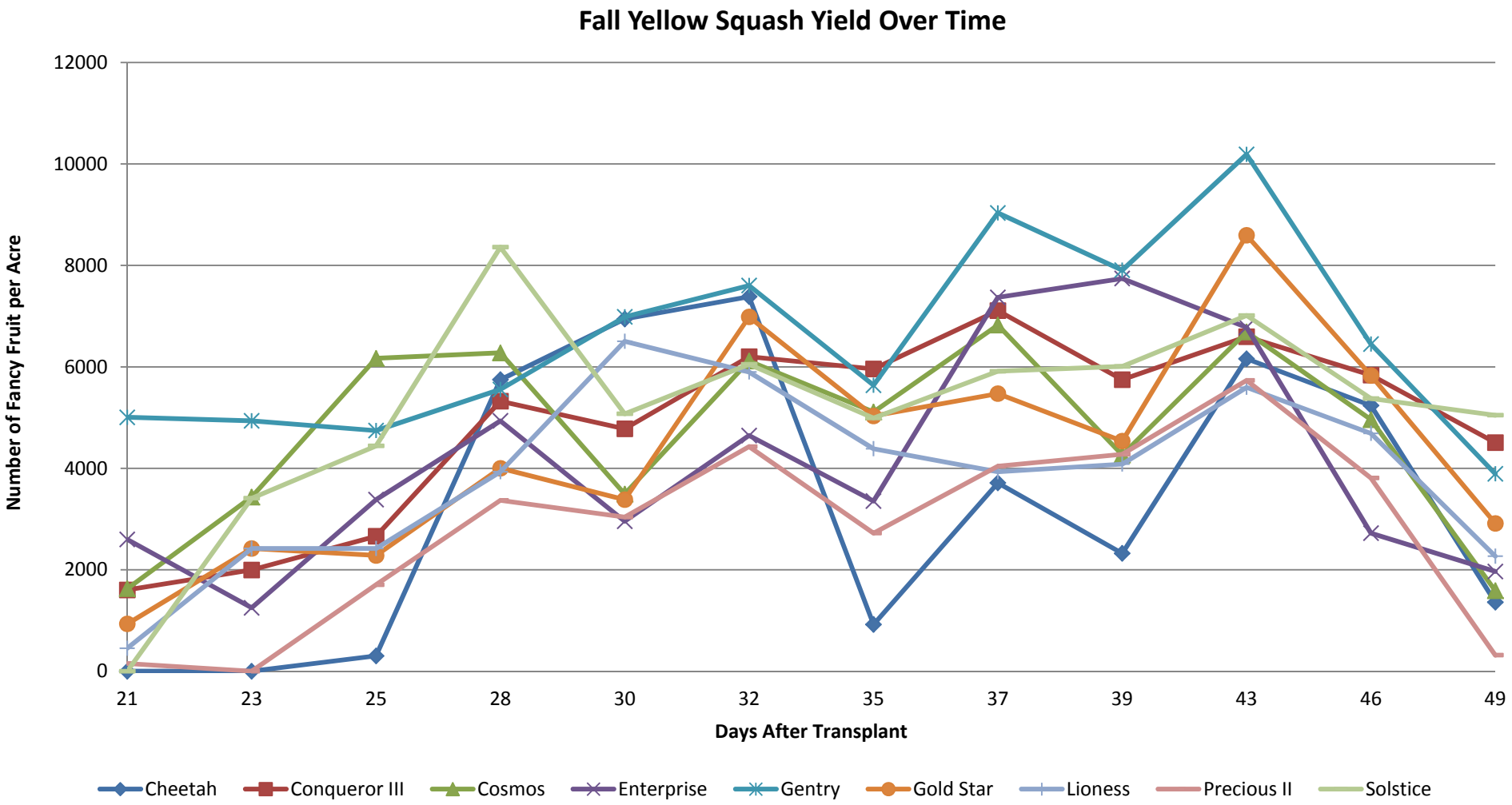
Table 5. Plant Characteristics for squash and zucchini varieties grown in Fall 2014.

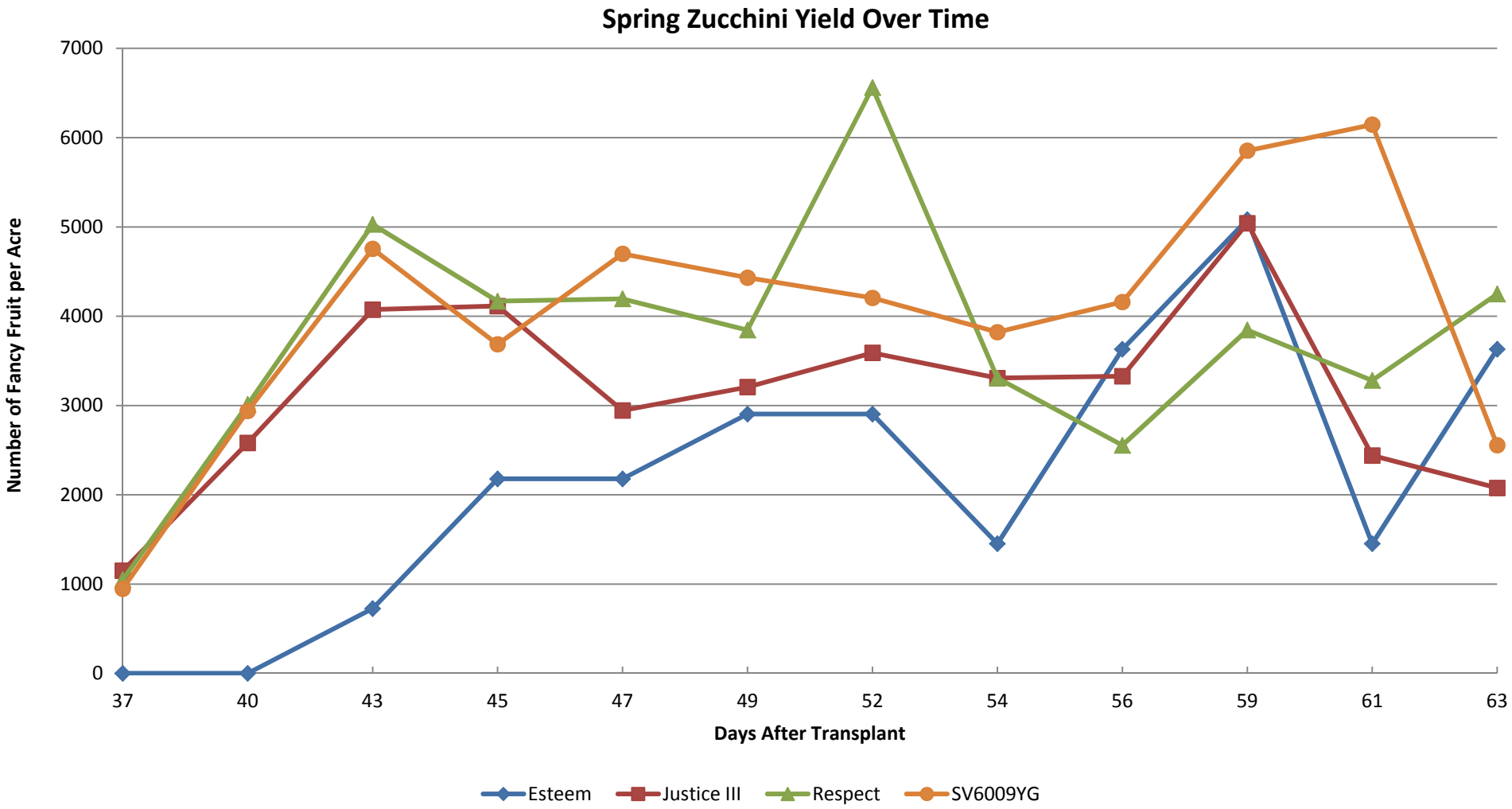
Variety	Spines (1-9)[z]	Plant Habit (1-5)[y]
Yellow Squash		
Cheetah	3	3
Conqueror III	5	2
Cosmos	3	4
Enterprise	4	4
Gentry	6	3
Gold Star	4	4
Lioness	5	4.5
Precious II	3	3
Solstice	2	3
Zucchini		
Esteem	8	2
Justice III	7	1
Paycheck	7	2
Payload	8	2
Respect	6	2
Reward	6	2
Spineless Beauty	9	3
Spineless King	9	3.5
SV6009YG	7	2

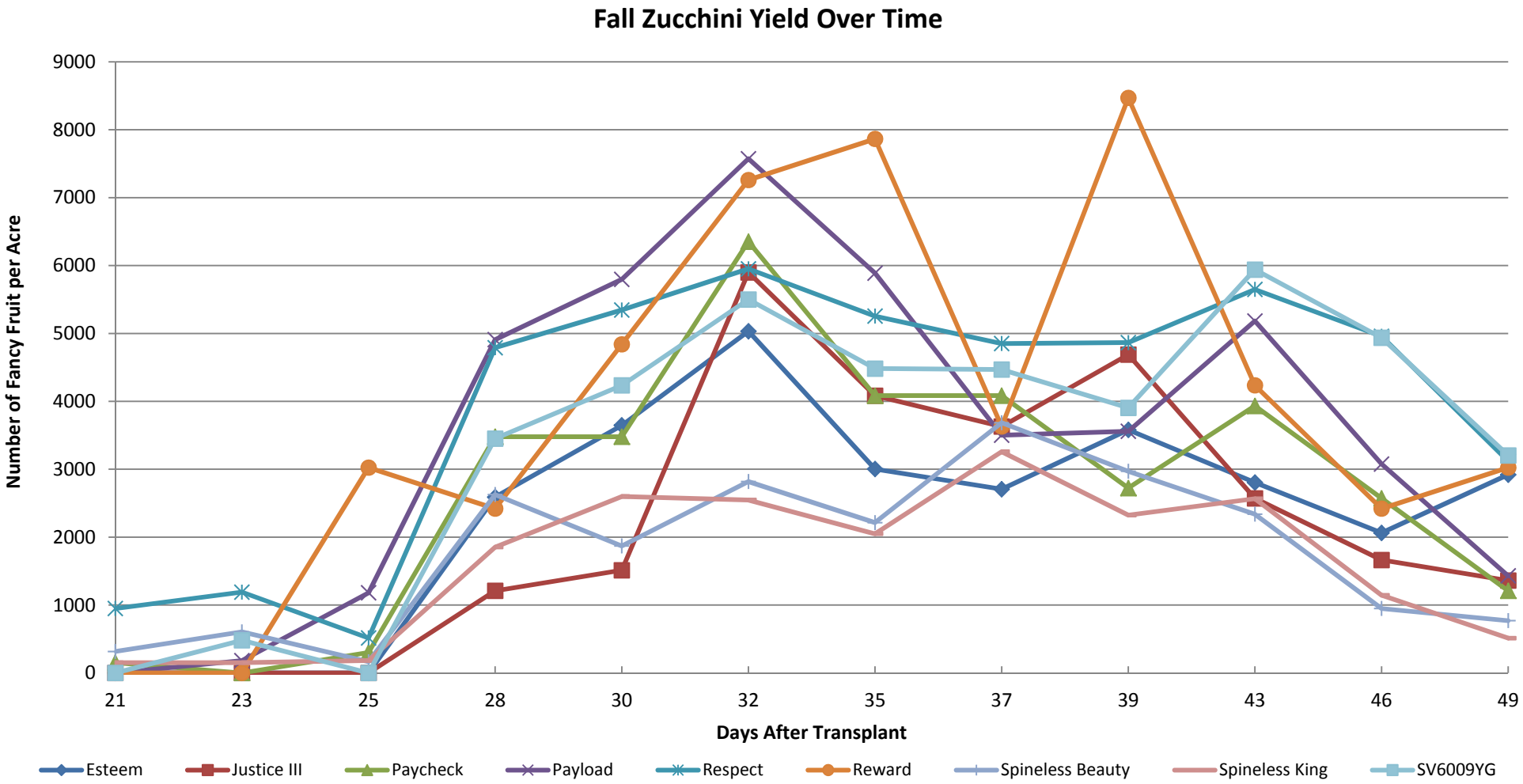
[z]Spine rankings on a 1-9 scale where 1= extremely spiny and 9= spineless and smooth.

[y]Plant habit based on a 1-5 scale where 1 = upright and compact, 3 = average semi-vine, 5 = strongly vining.


Spring Yellow Squash Yield Over Time
Number of Fancy Fruit per Acre
14000
12000
10000
8000
6000
4000
2000
0
37
40
43
45
47
49
52
54
56
59
61
63
Days After Transplant
Cheetah
Conqueror III
Cosmos
Enterprise
Gentry
Gold Star
Lioness
Precious II
Solstice


Fall Yellow Squash Yield Over Time
Number of Fancy Fruit per Acre
12000
10000
8000
6000
4000
2000
0
21
23
25
28
30
32
35
37
39
43
46
49
Days After Transplant
Cheetah
Conqueror III
Cosmos
Enterprise
Gentry
Gold Star
Lioness
Precious II
Solstice


Spring Zucchini Yield Over Time
Number of Fancy Fruit per Acre
7000
6000
5000
4000
3000
2000
1000
0
37
40
43
45
47
49
52
54
56
59
61
63
Days After Transplant
Esteem
Justice III
Respect
SV6009YG


Fall Zucchini Yield Over Time
Number of Fancy Fruit per Acre
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
21
23
25
28
30
32
35
37
39
43
46
49
Days After Transplant
Esteem
Justice III
Paycheck
Payload
Respect
Reward
Spineless Beauty
Spineless King
SV6009YG

2014 Squash and Zucchini Varieties

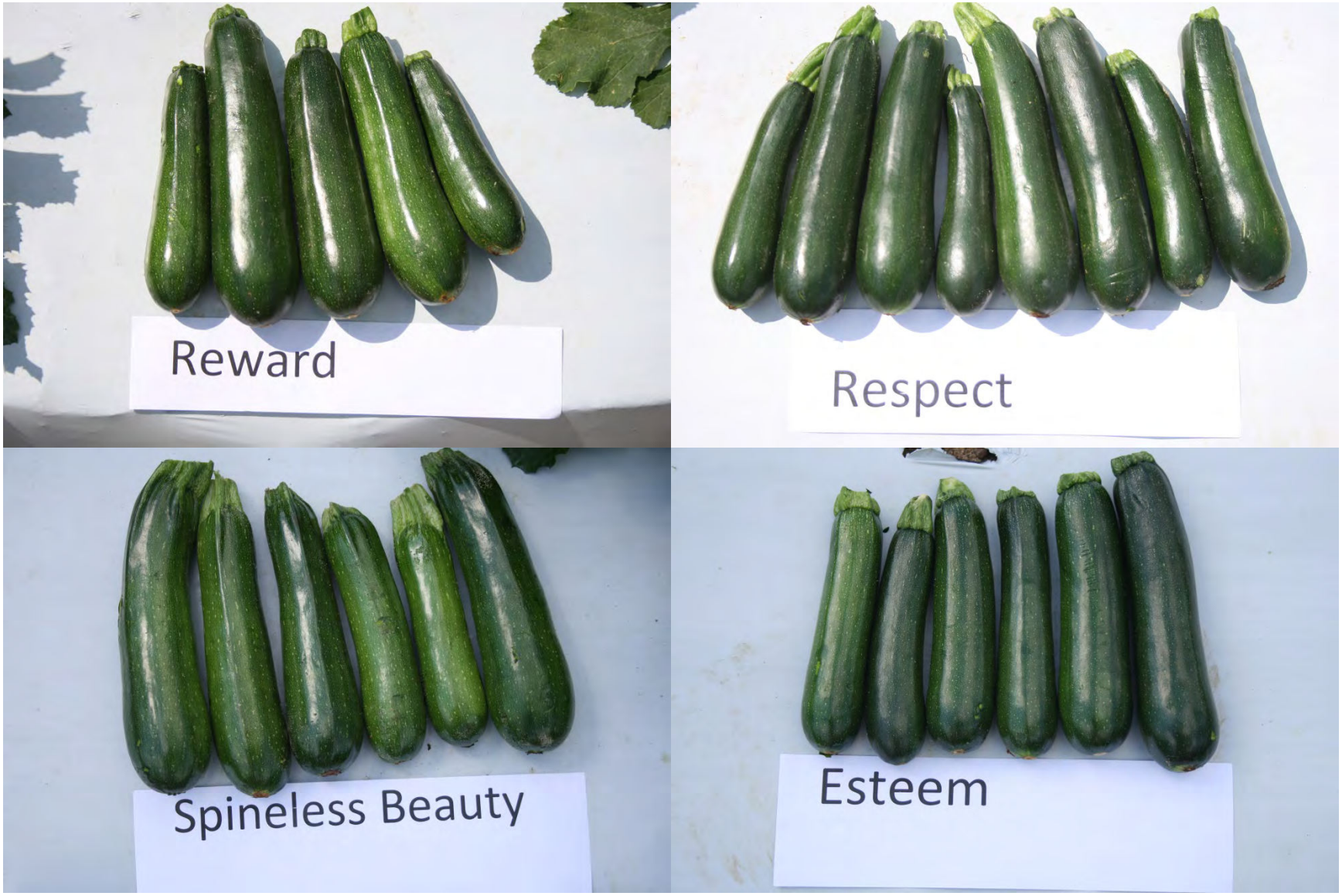

Gold Star
Cosmos
Solstice
Enterprise


Gentry


Paycheck


Payload


Spineless King


Reward
Respect
Spineless Beauty
Esteem


Justice III


SV6009YG

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

Date	Max Temp.	Min. Temp.	Rainfall (in.)		Date	Max Temp.	Min. Temp.	Rainfall (in.)
Mar 28, 2014	65.5	56.8	0.08		May 14, 2014	86.0	67.1	3.22
Mar 29, 2014	74.8	53.2	0.26		May 15, 2014	70.9	54.3	2.08
March 30, 2014	67.3	45.1	0.00		May 16, 2014	74.7	48.9	0.00
Mar 31, 2014	77.9	42.6	0.00		May 17, 2014	78.6	50.2	0.00
Apr 1, 2014	80.4	48.9	0.00		May 18, 2014	82.8	57.7	0.00
Apr 2, 2014	80.4	49.8	0.00		May 19, 2014	80.4	59.2	0.00
Apr 3, 2014	82.8	55.8	0.00		May 20, 2014	83.1	61.0	0.00
Apr 4, 2014	80.1	58.6	0.00		May 21, 2014	85.8	63.0	0.00
Apr 5, 2014	76.1	61.3	0.03		May 22, 2014	87.8	65.1	0.00
Apr 6, 2014	64.6	58.6	0.76		May 23, 2014	90.1	67.8	0.00
Apr 7, 2014	70.9	62.4	2.25		May 24, 2014	88.9	68.2	0.00
Apr 8, 2014	67.6	54.1	0.02		May 25, 2014	91.8	68.2	0.00
Apr 9, 2014	69.6	48.2	0.00		May 26, 2014	87.6	64.9	0.00
Apr 10, 2014	74.1	47.1	0.00		May 27, 2014	84.6	66.7	0.00
Apr 11, 2014	75.6	50.4	0.00		May 28, 2014	88.2	69.1	0.08
Apr 12, 2014	80.8	54.3	0.00		May 29, 2014	87.8	67.8	0.00
Apr 13, 2014	80.8	59.0	0.00		May 30, 2014	88.3	67.8	0.94
Apr 14, 2014	80.6	63.7	0.00		May 31, 2014	88.0	68.5	0.01
Apr 15, 2014	68.9	43.2	1.14					
Apr 16, 2014	61.7	37.4	0.00					
Apr 17, 2014	66.9	46.0	0.00					
Apr 18, 2014	59.2	53.6	2.82					
Apr 19, 2014	58.8	52.3	0.20					
Apr 20, 2014	66.2	51.3	0.01					
Apr 21, 2014	76.5	49.1	0.00					
Apr 22, 2014	78.3	55.4	0.00					
Apr 23, 2014	80.6	60.4	0.00					
Apr 24, 2014	83.3	60.3	0.00					
Apr 25, 2014	80.8	62.4	0.01					
Apr 26, 2014	83.1	57.7	0.00					
Apr 27, 2014	82.9	61.3	0.00					
Apr 28, 2014	83.8	64.8	0.00					
Apr 29, 2014	72.1	64.0	0.57					
Apr 30, 2014	72.3	64.8	0.90					
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					

Date	Max.Temp.	Min.Temp.	Rain (in)
Aug 18, 2014	91.2	71.1	0.23
Aug 19, 2014	89.8	71.6	0.12
Aug 20, 2014	92.7	70.2	0.16
Aug 21, 2014	95.7	70.2	0.00
Aug 22, 2014	96.1	69.6	0.00
Aug 23, 2014	97.5	74.5	0.00
Aug 24, 2014	92.1	73.2	0.00
Aug 25, 2014	87.8	70.2	0.00
Aug 26, 2014	89.6	68.4	0.00
Aug 27, 2014	90.1	65.1	0.00
Aug 28, 2014	92.8	66.2	0.00
Aug 29, 2014	95.2	67.8	0.00
Aug 30, 2014	93.0	74.5	0.28
Aug 31, 2014	93.6	72.0	0.19
Sep 1, 2014	94.5	72.0	0.00
Sep 2, 2014	94.3	72.1	0.83
Sep 3, 2014	90.9	69.8	1.32
Sep 4, 2014	91.4	70.2	0.01
Sep 5, 2014	90.9	72.3	0.00
Sep 6, 2014	86.7	72.1	0.02
Sep 7, 2014	89.4	69.8	1.70
Sep 8, 2014	81.9	71.6	0.01
Sep 9, 2014	86.5	70.3	0.34
Sep 10, 2014	89.1	70.9	0.01
Sep 11, 2014	92.3	73.4	0.00
Sep 12, 2014	93.4	72.0	0.00
Sep 13, 2014	91.9	72.7	0.05
Sep 14, 2014	90.5	71.2	0.20
Sep 15, 2014	89.8	71.6	0.01
Sep 16, 2014	86.4	71.4	0.49
Sep 17, 2014	89.2	67.5	0.01
Sep 18, 2014	85.6	65.8	0.00
Sep 19, 2014	83.5	68.9	0.48
Sep 20, 2014	82.4	67.3	0.00
Sep 21, 2014	86.5	59.9	0.00
Sep 22, 2014	87.4	63.1	0.16
Sep 23, 2014	78.3	65.5	0.01
Sep 24, 2014	66.7	57.4	0.00
Sep 25, 2014	72.7	60.6	0.00
Sep 26, 2014	80.4	63.3	0.01
Sep 27, 2014	75.7	67.3	0.00
Sep 28, 2014	77.4	69.8	0.00
Sep 29, 2014	75.0	69.3	0.29
Sep 30, 2014	76.8	65.1	0.00
Oct 1, 2014	83.8	61.0	0.01
Oct 2, 2014	86.2	66.4	0.00
Oct 3, 2014	81.9	69.6	0.37
Oct 4, 2014	72.1	49.6	0.01
Oct 5, 2014	70.9	44.2	0.00
Oct 6, 2014	78.4	48.7	0.00

Trial Report: Yellow Squash and Zucchini Spring and Fall Variety Evaluation 2015

Conducted by:
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Production

Location: Tifton, GA
Entries: 8 yellow squash, 13 zucchini (spring) 16 zucchini (fall)
Planting Date: Seeded on into 200 cell trays 31 Mar. and 5 Aug. transplant 14 Apr. and 14 Aug.
Plant Spacing: 6' centers black TIF plastic mulch (spring), white TIF plastic mulch (fall) 12" in-row spacing (7260 per acre pop.)
Plot size: 12 plants per plot with 4' alleys between adjacent plots.
Fumigation: Trifecta applied in Feb. when plastic laid for spring and Pic-Chlor 60 in July when plastic laid for fall.
Fertility: 1000 lbs/acre 5-10-15 preplant under plastic with weekly fertigations with 7-0-7 of 12 lbs/N acre for a total of 134 lb/acre N. Irrigation: 1 inch per week.
Herbicide: Between rows: Dual Magnum + Curbit + Valor + Goal 2XL
Pest Control: Weekly fungicide sprays according to UGA recommendations (+ copper for *Pseudomonas* after transplanting in spring).
Pollination Services: 2 bumblebee quads located in planting and 6 honeybee hives located approximately 500 feet from planting.

Data Collection

Harvests: 13 Spring and 10 Fall
Grading: Squash graded into Fancy (US no. 1) and Medium size categories by count. Sampling of random fruit showed that fancy squash weighed approximately 0.35 lb each, while medium fruit weighed approximately 0.60-0.65 lb each. Fruit were culled for misshapenness, virus symptoms, disease (choanephora rot), and poor color. Yields are presented per ½ bushel box (21 lbs) - this was estimated to contain 36 medium fruit and 60 fancy fruit based on average fruit weight and size.

Table 1. Entries in the 2015 squash trials					
Abbott and Cobb	**Bejo (Fall only)**	**Enza Zaden**	**Harris Moran**	**Seminis**	**Syngenta**
Cosmos	BE 2959	Green Machine	Lionness	Conqueror III	Enterprise
Solstice	BE 3043		Esteem	Justice III	Gentry
Symphony	Modena		Respect	SV0474	Gold Prize
			Reward	SV0914	Gold Star
				SV6009	Payload
					Spineless Beauty
					Spineless King
					Spineless Perfection

Results (See tables and figures for results)

As expected spring yields were greater than those in the fall. This was due to 3 additional harvests in spring as well. The presence of *Erwinia carotovora* soft rot, which invaded open wounds from fruit removal (primarily on zucchini) during a prolonged wet and cloudy period in the fall, reduced the number of fall harvests.

Yellow Squash. Solstice and Gentry were the highest yielding yellow squash varieties in spring and fall. In 2014 trials both of these varieties performed well. Conqueror III was the sixth highest yielding squash in the spring but the third highest yielder in the fall. This is consistent with previous trial results as well. As expected, cull rates for yellow squash were higher in the fall and were largely due to the presence of viral symptoms on fruit. Approximately 5% of fruit were culled due to being misshapen or "doubles". Fruit harvested in fall tended to be longer and straighneck varieties Conqueror III and Lionness had significantly increased crooking in fall. Varieties were evaluated for spines (1-9 scale) and plant habit (1-5 scale). In general yellow squash had greater spines and were much more vigorous than zucchini. Cosmos and Enterprise were generally rated as the spiniest, with Gentry, Gold Star, and Lionness being the least spiny. Gold Star and Lionness were the most vigorous plants. Gentry, Enterprise, and Cosmos were the earliest yielding varieties in the spring trial. Gentry has typically been the earliest variety in trials in Tifton.

Zucchini Squash. Respect was the highest yielding variety in terms of total yield and yield of fancy fruit in spring and fall. SV0474 was a high yielder in the spring, but dropped slightly in the fall. A fall-only entry BE2959 yielded well in the fall. Cull rates and yields were lowest in Symphony and Spineless King. As expected Spineless King, Spineless Perfection, and Spineless Beauty had the lowest spine rating. However, SV0914 and Symphony also displayed very few spines. Respect and Green Machine tended to be the spiniest. Respect generally had the most compact plants when evaluated for vigor. In the spring Esteem had the largest, most vigorous plants, although in the fall, Green Machine was *by far* the largest and most vigorous zucchini variety, reaching heights in excess of 4 feet. Green Machine was the earliest zucchini variety in spring based, though Reward, Respect, and Spineless Beauty also yielded well early.

Table 2. Yellow squash yields for Spring 2015 in Tifton, GA.								
	(1/2 bushel boxes/acre)[z]						Cull	
Variety[z]	Total Yield		Fancy Yield		Medium Yield		(%)[y]	
Solstice	2640	a	1840	a	800	a	5.1	b
Gentry	2540	ab	1880	a	660	ab	9.3	a
Cosmos	2150	bc	1380	bc	770	a	10.9	a
Enterprise	2110	c	1440	b	660	ab	10.0	a
Lionness	1950	cd	1190	bc	760	ab	8.7	ab
Conqueror III	1920	cd	1200	bc	730	ab	10.0	a
Gold Prize	1870	cd	1160	bc	710	ab	10.1	a
Gold Star	1680	d	1130	c	550	b	7.6	ab

[z]Yield based on average fancy fruit medium fruit graded and counted. Yields are presented per ½ bushel box (21 lbs) - this was estimated to contain 36 medium fruit and 60 fancy fruit based on average fruit weight and size.

[x]Cull percentage based on number of cull fruit divided by total number of fruit harvested.

Table 3. Yellow squash yields for Fall 2015 in Tifton, GA.								
	(1/2 bushel boxes/acre)[z]						Cull	
Variety[z]	Total Yield		Fancy Yield		Medium Yield		(%)[y]	
Solstice	1920	a	1610	a	310	a	6.9	c
Gentry	1680	ab	1510	ab	170	a	7.0	c
Conqueror III	1460	bc	1160	cd	300	a	9.6	bc
Cosmos	1440	bcd	1230	bc	210	a	16.7	ab
Enterprise	1350	bcd	1110	cd	240	a	16.8	b
Lionness	1250	cd	1000	cd	260	a	14.9	abc
Gold Star	1200	cd	990	cd	210	a	10.1	bc
Gold Prize	1120	d	830	d	290	a	19.6	a

[z]Yield based on average fancy fruit medium fruit graded and counted. Yields are presented per ½ bushel box (21 lbs) - this was estimated to contain 36 medium fruit and 60 fancy fruit based on average fruit weight and size.

[x]Cull percentage based on number of cull fruit divided by total number of fruit harvested.

Table 4. Zucchini squash yields for Spring 2015 in Tifton, GA.								
	(1/2 bushel boxes/acre)[z]						Cull	
Variety[z]	Total Yield		Fancy Yield		Medium Yield		(%)[y]	
Respect	1840	a	1100	a	740	a	12.0	bcd
SV0474	1770	ab	1010	ab	760	a	7.4	d
Reward	1700	abc	1010	ab	700	a	12.2	bcd
Green Machine	1680	abc	920	bc	770	a	11.9	bcd
SV6009	1620	bcd	980	ab	650	ab	9.5	d
SV0914	1600	b-e	900	bcd	700	a	8.9	d
Spineless Beauty	1570	b-e	800	cde	770	a	14.8	abc
Payload	1550	cde	910	bcd	650	ab	12.0	bcd
Justice III	1450	def	770	c-f	680	a	17.7	a
Spineless Perfection	1420	def	700	ef	720	a	17.4	a
Esteem	1400	ef	730	def	660	ab	11.0	cd
Symphony	1300	fg	670	ef	630	ab	19.9	a
Spineless King	1130	g	620	f	510	b	16.5	ab

[z]Yield based on average fancy fruit medium fruit graded and counted. Yields are presented per ½ bushel box (21 lbs) - this was estimated to contain 36 medium fruit and 60 fancy fruit based on average fruit weight and size.

[x]Cull percentage based on **number of cull fruit divided by total number of fruit harvested.**

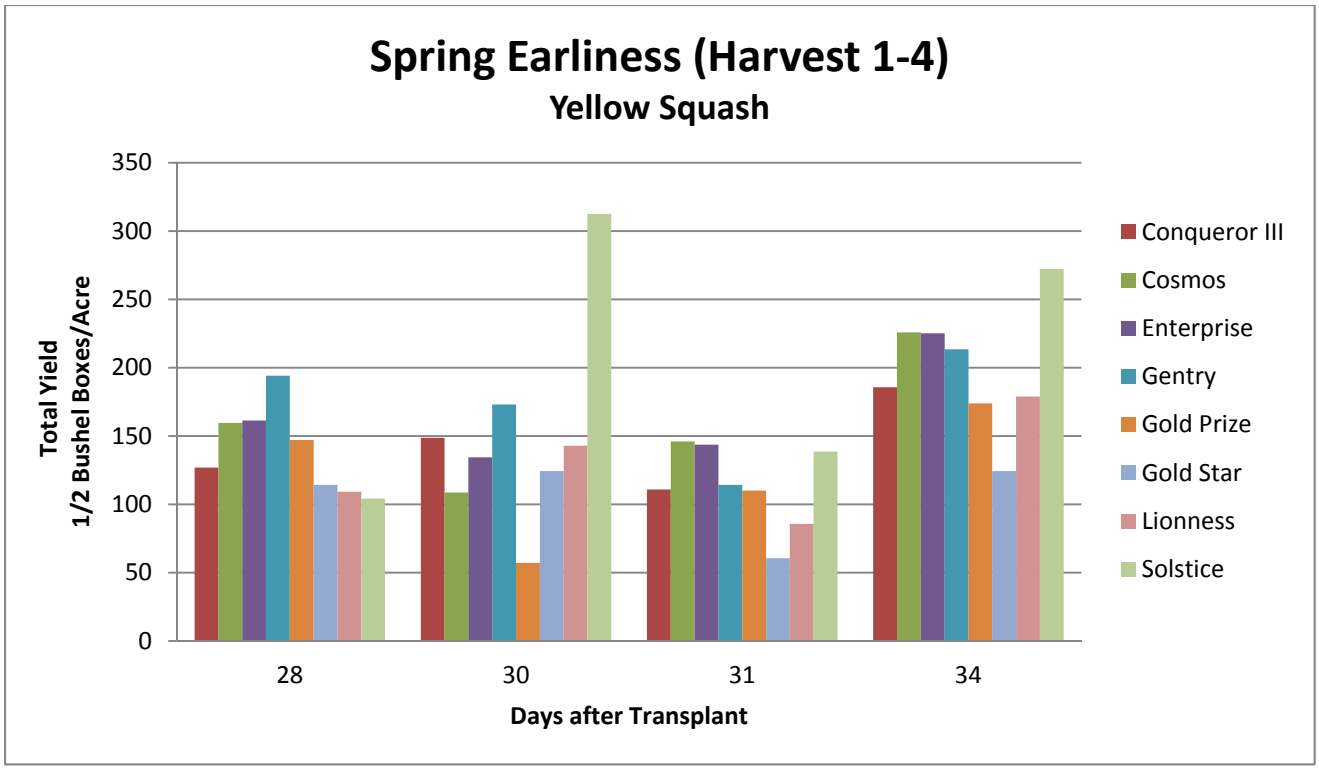
Table 5. Zucchini squash yields for Fall 2015 in Tifton, GA.								
	(1/2 bushel boxes/acre)[z]						Cull	
Variety[z]	Total Yield		Fancy Yield		Medium Yield		(%)[y]	
Respect	1210	a	840	a	380	ab	8.1	de
BE2959	1150	ab	710	abc	440	a	11.4	de
Justice III	1090	ab	640	cd	440	a	17.0	bcd
Reward	1080	ab	750	abc	330	a-d	10.4	de
Payload	1060	ab	710	abc	350	abc	12.8	cde
BE3043	1060	ab	380	bc	380	ab	10.9	de
Green Machine	1050	ab	700	abc	350	abc	12.3	de
SV0474	1050	ab	800	ab	240	b-e	6.3	e
SV6009	980	bc	730	abc	250	b-e	12.1	de
Spineless Beauty	770	cd	500	e	270	b-e	23.3	ab
SV0914	710	de	510	de	200	de	9.8	de
Spineless Perfection	680	de	390	ef	290	b-e	24.2	ab
Esteem	650	de	420	ef	230	cde	9.4	de
Spineless King	640	de	390	ef	250	b-e	23.0	ab
Modena	620	de	380	ef	240	cde	22.0	abc
Symphony	510	e	330	f	180	e	27.9	a

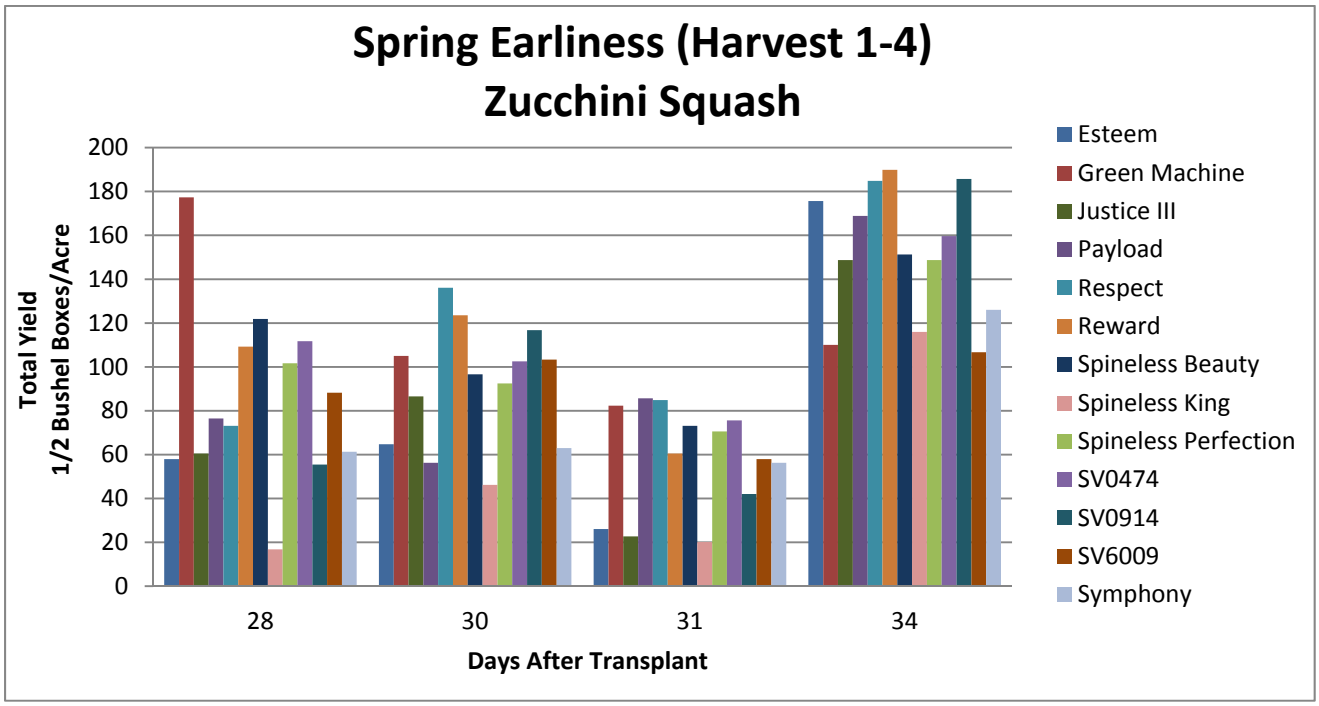
[z]Yield based on average fancy fruit medium fruit graded and counted. Yields are presented per ½ bushel box (21 lbs) - this was estimated to contain 36 medium fruit and 60 fancy fruit based on average fruit weight and size.

[x]Cull percentage based on number of cull fruit divided by total number of fruit harvested.

Table 6. Yellow squash plant data for Spring and Fall 2015 in Tifton, GA.								
	Spring				Fall			
Variety[z]	Spines (1-9)[z]		Habit (1-5)[y]		Spines (1-9)		Habit (1-5)	
Gentry	5.0	a	3.6	a-d	3.8	bc	3.0	d
Gold Star	4.3	a	4.8	a	4.0	abc	4.9	a
Lionness	4.0	a	4.5	ab	4.7	a	5.0	a
Conqueror III	3.5	ab	2.6	de	4.3	ab	4.7	ab
Gold Prize	3.5	ab	4.1	abc	4.5	ab	4.8	ab
Solstice	2.4	bc	3.1	cde	3.3	cd	3.7	cd
Enterprise	2.3	bc	2.3	e	1.5	e	3.0	d
Cosmos	1.8	c	3.4	b-e	2.7	d	4.2	ab
[z]Spines rated on a 1-9 scale with 1=extremely spiny, 5=moderate, 9=complete lack of spines [y]Habit rated on a 1-5 scale with 1=compact, 3=average vigor, 5=large bush or strong vines								

Table 7. Zucchini squash plant data for Spring and Fall 2015 in Tifton, GA.								
	Spring				Fall			
Variety[z]	Spines (1-9)[z]		Habit (1-5)[y]		Spines (1-9)		Habit (1-5)	
Spineless King	9.0	a	3.1	a-e	9.0	a	3.3	d
Spineless Perfection	9.0	a	3.1	a-e	9.0	a	3.8	bcd
Spineless Beauty	8.8	ab	3.0	b-e	8.7	ab	4.3	ab
Symphony	8.0	bc	3.1	a-e	8.0	bc	3.2	d
SV0914	7.5	cd	3.8	ab	9.0	a	4.0	a-d
SV6009	6.7	de	2.5	def	7.2	cde	4.0	a-d
Reward	6.5	ef	2.4	ef	6.8	de	3.8	bcd
Esteem	6.3	ef	4.0	a	7.7	cd	4.5	ab
Payload	6.1	ef	2.8	c-e	7.0	de	3.3	d
Respect	6.0	ef	2.0	f	6.7	e	3.3	cd
SV0474	5.8	fg	3.4	a-d	7.7	cd	3.8	bcd
Justice III	5.8	fg	3.3	a-e	7.0	de	4.3	abc
Green Machine	5.0	g	3.6	abc	7.0	de	5.0	a
BE2959					7.0	de	4.3	ab
BE3043					6.7	e	3.8	bcd
Modena					7.5	cde	3.7	bcd
[z]Spines rated on a 1-9 scale with 1=extremely spiny, 5=moderate, 9=complete lack of spines [y]Habit rated on a 1-5 scale with 1=compact, 3=average vigor, 5=large bush or strong vines								


Spring Earliness (Harvest 1-4)
Yellow Squash
Total Yield
1/2 Bushel Boxes/Acre
350
300
250
200
150
100
50
0
28
30
31
34
Days after Transplant
Conqueror III
Cosmos
Enterprise
Gentry
Gold Prize
Gold Star
Lionness
Solstice


Spring Earliness (Harvest 1-4)
Zucchini Squash
Total Yield
1/2 Bushel Boxes/Acre
200
180
160
140
120
100
80
60
40
20
0
28
30
31
34
Days After Transplant
Esteem
Green Machine
Justice III
Payload
Respect
Reward
Spineless Beauty
Spineless King
Spineless Perfection
SV0474
SV0914
SV6009
Symphony

Trial Report: Bell Pepper (X10) Variety Evaluation Fall 2015

Conducted by:
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Production:

Location: Tifton, GA

Entries: 8 (9235 PB, 4288, 2815, 3255, Antebellum, Aristotle, Seedway 48, Seedway 001)

Planting Date: Seeded into 200 cell trays on 1 July, transplanted 10 Aug.

Plant spacing: 6' centers white TIF plastic mulch with 12" in-row spacing. Double rows were used for a plant population of 14,520 plants per acre.

Plot size: 40 plants per plot with four plots (replicates per variety) arranged as a randomized complete block design.

Fumigation: Pic-Chlor 60 applied in July when plastic laid.

Fertility: 1000 lbs of 5-10-15 applied preplant under plastic. Weekly fertigations of 7-0-7 at 15 lbs N acre for a total of 260 lbs/acre N. Irrigation applied at approximately 1 inch per week.

Herbicide: Between rows – Dual Magnum, Valor, and Goal 2xl

Pest Control: Weekly applications of copper and manzate as well as Quadris and Bravo when needed. Insecticides applied included Admire Pro, Venom, Coragen, and Sivanto.

Data Collection:

Harvests: four at 58, 65, 79 and 99 days after transplant (DAT).

Grading: Pepper graded into USDA grades of U.S. Fancy (Jumbo and Extra Large), U.S. No. 1 (large), Choppers (misshapen but otherwise no defects- appropriate for processing), and culls (misshapen with defects or defects). Yields are presented in 1 1/9 bushel boxes (estimated 22 lbs).

Plant vigor evaluated during the second harvest (65 DAT).

Data analysis: Data analyzed using SAS statistical software using the GLM procedure and Fisher's Least Significant Difference Test for mean separation.

Results:

The highest yielding variety for total marketable yield was 3255, with 1430 boxes/acre. The highest yielding variety for USDA Fancy-grade fruit (Jumbo and Extra Large) was 9325 with 930 boxes/acre of USDA-Fancy fruit and a total yield of 1290 boxes/acre. Aristotle also had a high percentage of USDA-Fancy fruit, though total yields for Aristotle were somewhat lower. The varieties with the highest percentage of Fancy fruit were 9325 and Aristotle, while 3255 had the lowest percentage of USDA-Fancy fruit at 45.5%. As would be expected, based on yield results, average fruit weight was highest for 9325 (7.5 oz) and lowest in 3255 (6.6 oz). Cull percentages were low overall, ranging from 0.5% to 4.9%. Plant vigor was evaluated at the second harvest and was highest in Antebellum and lowest in Aristotle.

Early (first harvest) yields were highest in 4288 and Seedway 001, while 9325 was the highest yielding variety during the third (79 DAT) harvest. Average fruit weight decreased on the fourth harvest (99 DAT) on most varieties, with the majority of fruit being USDA No. 1 size. The variety 3255 had the highest yield on the last harvest with nearly 400 boxes/acre.

Table 1. Yield data for fall-grown bell peppers. Peppers were graded according to USDA standards; however, market-based standards are included and noted below.

Variety	Fancy (Jumbo + Extra Large)		U.S. No. 1 (Large)		Total Marketable		Choppers		Percentage (Jumbo + Extra Large)		Avg. Marketable Fruit Weight		Cull Percentage		Plant Vigor	
	Boxes (1 1/9 Bushel) Per Acre[z]								(%)		(oz.)		(%)		(1-9)[w]	
9325 PB	930	a[y]	360	b	1290	abc	190	a	71.5	a	7.5	a	2.6	abc	6.3	a
Aristotle	780	ab	350	b	1130	bc	260	a	68.7	a	7.3	a	3.1	ab	3.5	b
Antebellum	750	ab	510	ab	1270	abc	180	a	60.0	ab	6.9	a	1.9	bc	8.0	a
4288	750	ab	590	ab	1330	ab	220	a	56.0	ab	7.4	a	4.0	ab	6.3	a
Seedway 48	740	ab	410	b	1150	bc	120	a	65.6	ab	6.9	a	4.9	a	5.8	ab
2815	710	ab	390	b	1110	c	250	a	65.0	ab	7.1	a	2.9	ab	7.0	a
3255	670	ab	760	a	1430	a	170	a	45.5	b	6.6	a	0.5	c	6.3	a
Seedway 001	610	b	510	ab	1120	bc	230	a	55.1	ab	7.2	a	2.6	abc	6.0	ab

[z]Average box weight of 22 lbs used to calculate yield.

[y]Values within the same column followed by a different letter are significantly different according to Fisher's Least Significant Difference Test ($P<0.05$).

[w]Plant vigor evaluated on a 1-9 scale (1=small, low vigor; 5= average vigor, 9=robust, strong vigor)

Figure 1. Average fancy and total marketable yields at each harvest date. Note the scale of the Y-axis (yield) is different at each harvest date

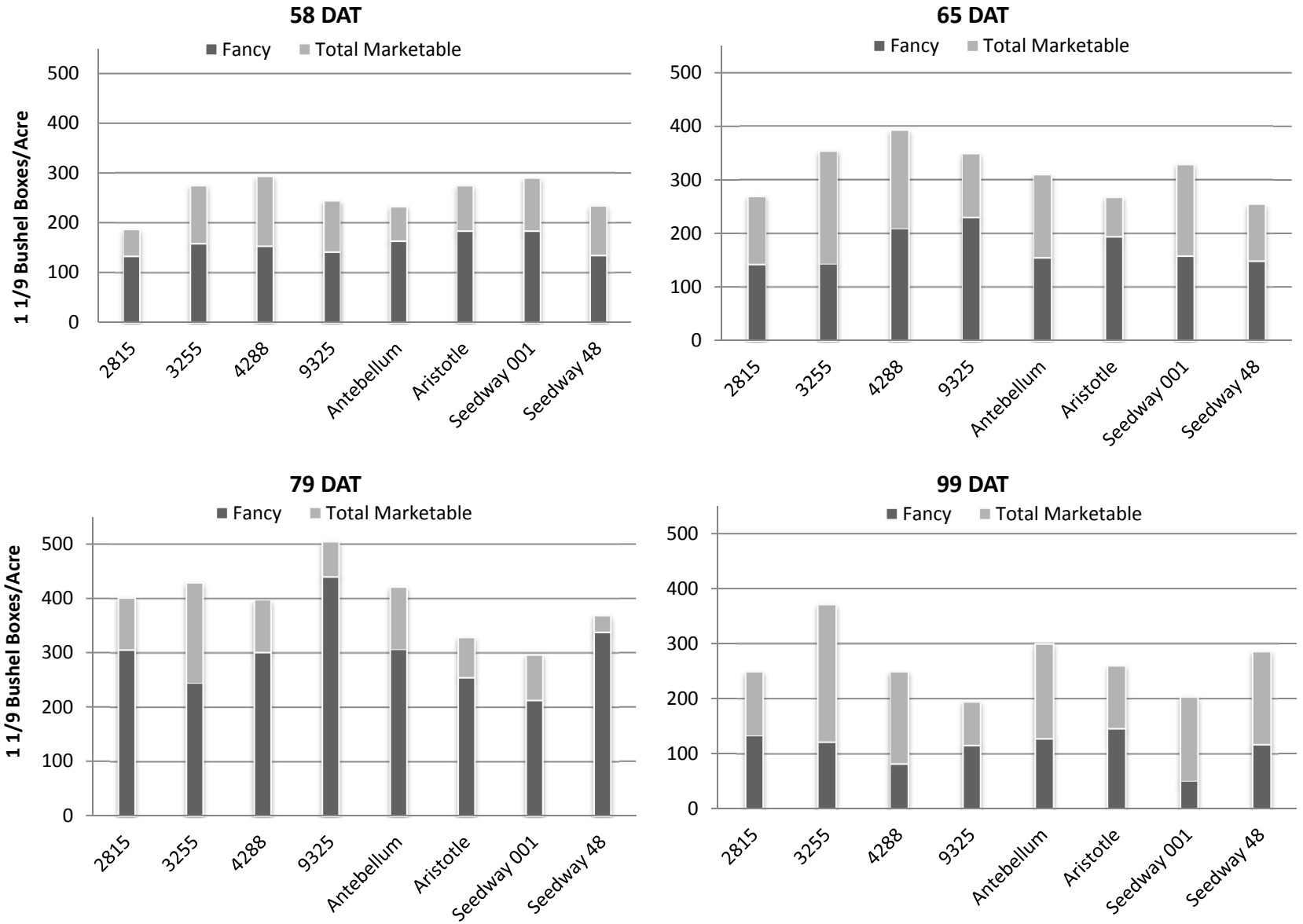
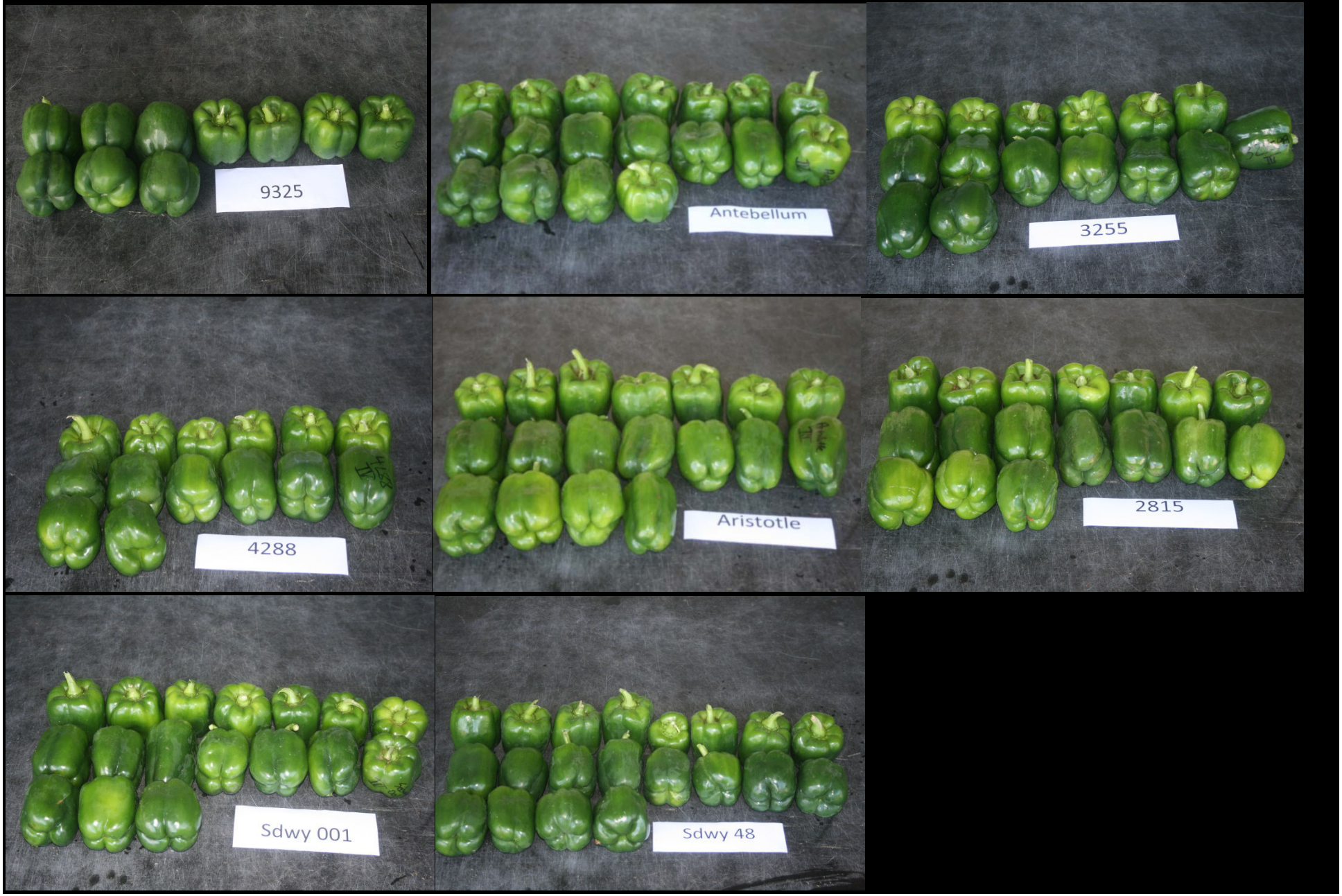


Figure 2. Photos of varieties in the Fall 2015 trial.



2014 Watermelon Variety Trial Report for Tifton, GA. Provided by The University of Georgia.

Trial Report: Seedless Watermelon Variety Evaluation 2014

Conducted by:
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List of Figures & Tables

Methods

Production

Location: Tifton, GA
Entries: 25 varieties & advanced selections
Planting Date: Watermelons seeded on 14 Feb. into 200 cell trays. Transplanted on 31 Mar.
Plant Spacing: 6' centers plastic mulch, 36" in-row spacing (2420 per acre population).
Plot size: 10 plants per plot with 15 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 soluble urea or 7-0-7 weekly at 10-12 lbs N/acre per week starting 2 week after planting. Magnesium sulfate applied 3x through drip irrigation at a rate of 3 lb/acre Mg. Total application of N for the season was 180 lb/acre N.
Irrigation: 1 inch per week until full vining, then 2 inches per week, reduced to 1 inch 2 weeks prior to initial harvest (irrigation reduced approx. 10 June).
Herbicide: Between rows- Dual II Magnum + Curbit (Sonalan) + Reflex
Pest Control: Weekly fungicide sprays according to UGA recommendations (+ copper initially for *Pseudomonas sp*.), Imidacloprid at planting, Venom and Agrimek applied during growth.
Pollenizer: SP-6, placed after every 3rd plant (3 per plot) in all plots. Wildcard pollinizer placed in plots of Bold Ruler, Charismatic, and Secretariat in addition to SP-6 pollenizer.
Bees: 3 honeybee hives located approximately 500 feet from planting.

Data Collection:

Final stand count conducted: 11 July.
Harvest dates: 24 June and 2, 9 July. Fruit harvested when tendril at attachment node had browned and ground-spot yellowed. Fruit below 10 lb and misshapen/cull fruit were not harvested.
Fruit weighed individually for grading into 60, 45, 36, and 30 count classes. The following classes and weights were determined by the National Watermelon Research and Development Group to be used for watermelon variety trials to aid in unifying trial results:

60 count: 9-13.5 lb, 45 count: 13.6-17.5 lb, 36 count: 17.6-21.4 lb, 30 count: 21.5+ lb

At harvest 2 (2 July) a subset of 4 representative fruit from each treatment/rep (16 per variety total) were utilized for quality measurements. Average firmness was determined using and 11 mm probe with a hand-held firmness tester from 2 locations in 4 melons (8 readings) per replication. Average brix was obtained from a teaspoon sample of flesh from each of the 4 melon subset per replication, which was crushed using a hand-held lemon press and read using a hand-held refractometer (Figure 1).

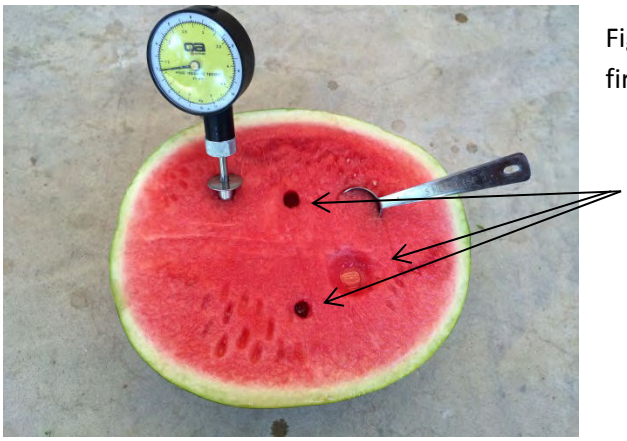


Figure 1: Approximate locations for firmness and brix testing

Average number of hard seed was determined by counting the total number of hard seed per 4 melon subsample. Each melon was quartered and the number of black, hard seed counted in two quarters of each melon. Average hollow heart was rated by slicing melons in half (length-wise) and ranking melons on a 1-4 scale (See figure 3 below). On this scale: 1 < 0.25 inch-wide, cracking in one direction, still marketable, 2 =0.25-0.75 inch, cracking in a single or multiple directions, not marketable, 3= 0.75-1.5 cracking in one or multiple directions, not marketable, 4 > 1.5 inch cracking in multiple directions, not marketable. Average length and width of each of the melons were also recorded. Climate conditions: cool and wet initially, turning to warm and dry during harvest (Appendix A). Data analysis conducted using SAS version 9.3. Proc GLM and Fisher's least significant test were conducted when appropriate.

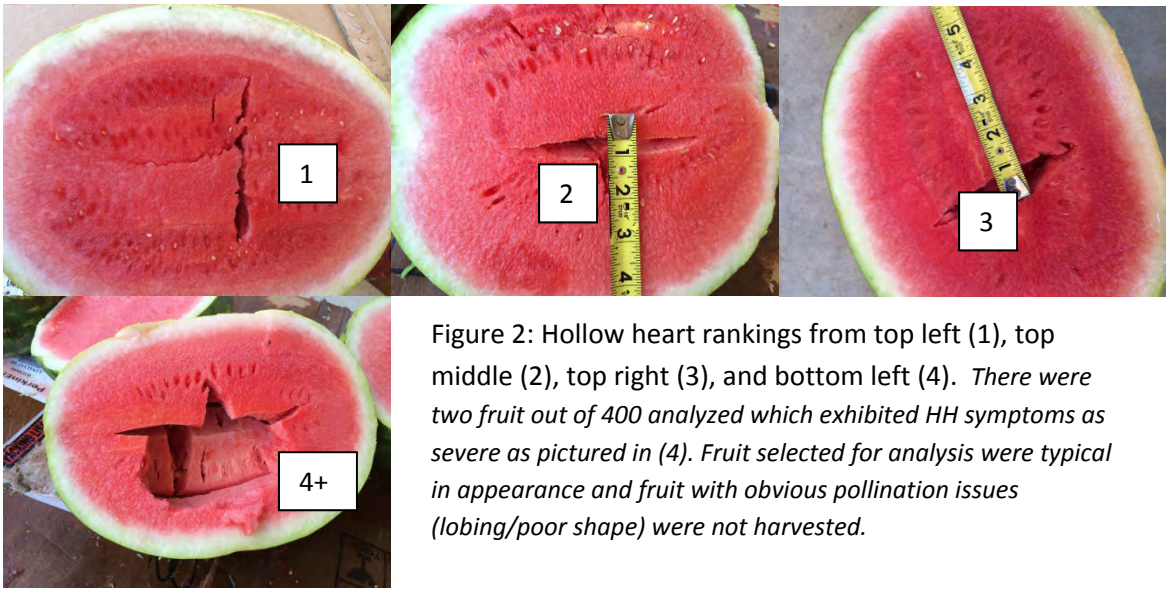


Figure 2: Hollow heart rankings from top left (1), top middle (2), top right (3), and bottom left (4). *There were two fruit out of 400 analyzed which exhibited HH symptoms as severe as pictured in (4). Fruit selected for analysis were typical in appearance and fruit with obvious pollination issues (lobing/poor shape) were not harvested.*

Table 1. Entries included in the Spring 2014 trial.

US Agriseeds	Harris Moran	High Mark	Nunhems	Sakata	Seminis	Syngenta
USAWX90020	Crunchy Red	Razorback	ACX6177	Bold Ruler	SV0241WA	Fascination
	Traveler	Wolverine	5234 Plus	Charismatic		Exclamation
	Troubadour		7187HQ	Secretariat		Distinction
			7197HQ			Melody
			7387HQ			
			9651HQ			
			Declaration			
			Nun01009			

Results

Yield data from the first 2 harvests (Tables 2, 3) and the total from all harvests are presented (Tables 4-7). Average melon weight for each harvest in Table 8 and quality data presented in Table 9. Representative pictures of each variety presented in figure 3. *There are three advanced selections which have data blacked-out in the tables out of request from the participant.*

After planting cold temperatures were experienced for several weeks, slowing initial growth. Fruit were estimated to be approximately 1 week behind previous years in the Tifton, GA region due to this cool weather. Yields were high for all varieties tested. The highest yielder was 9651 HQ, which was a solid-patterned fruit producing a large number of 45 and 36 count fruit. It had an average weight of 16.0 lbs, which would put it in a 45 count category. There were 10 varieties that had yields that were not significantly different from 9651 HQ. Other varieties in this group included ACX6177, Wolverine, Declaration, Troubadour, Nun01009, 7387 HQ, Crunchy Red, and Distinction. The largest average fruit were USAWX90020, 7387 HQ, and Crunchy Red. Average fruit weight declined over the three harvest periods in most, but not all fruit. Several varieties increased in average fruit weight. Quality of all fruit was high with sugar content ranging from 10.8-12.3%. Firmness was highest in Crunchy red. Hollow heart was ranked on a 1-4 scale and there was not a significant difference between varieties. Most varieties with the highest scores for hollow heart (Wolverine, Melody, 7187) had a small number of fruit with severe (4) ratings of hollow heart allowing for a higher average. Several varieties had no symptoms of hollow heart visible in any fruit rated. Firmness was not significantly correlated with hollow heart (data not shown). Hard seed were low in all melons. Typically when a large number of hard seeds were found it was in a single fruit sampled.

We would like to thank the participating seed companies for their support.

Table 2. Yield in pounds and bins per acre as well as percent of melons in each size category for the first watermelon harvest (24 June 2014). Varieties ranked in descending order based on total yield in lbs/acre.

Variety	Total Yield	60 Count		45 Count		36 Count		30 Count		Percent 60 count	Percent 45 count	Percent 36 count	Percent 30 count
	(lbs/acre)	(bins/acre)	(lbs/acre)	(bins/acre)	(lbs/acre)	(bins/acre)	(lbs/acre)	(bins/acre)	(lbs/acre)	(%)[z]			
9651HQ	89943	22[y]	15932	62	42350	43	29620	3	2042	14.1	57.5	24.8	3.6
Nun01009	65106	7	5790	38	26876	37	26861	7	5579	9.1	39.9	41.2	9.8
Exclamation	60791	12	8628	25	17797	36	26089	10	8277	12.0	34.7	40.5	12.8
Melody	59688	23	16759	29	20010	33	22919	0	0	26.5	33.6	39.9	0.0
Declaration	58858	8	5452	26	18194	39	27650	9	7563	11.6	32.8	46.3	9.4
Troubadour	58134	30	22067	32	21415	20	14651	0	0	39.9	34.5	25.6	0.0
ACX6177	55341	11	8420	30	20704	34	24267	2	1949	14.9	33.6	48.1	3.4
7387HQ	51477	4	2904	11	7744	35	23186	22	17643	8.3	18.7	49.2	23.8
Charismatic	49086	17	12483	27	18335	22	16377	3	1891	23.4	40.4	33.1	3.1
Crunchy Red	47872	4	3351	19	12873	39	28099	4	3549	7.3	22.4	63.4	6.9
Razorback	45345	13	9211	21	13945	28	20615	2	1573	21.0	32.4	41.1	5.5
Traveler	44649	22	15730	28	19723	13	9196	0	0	37.0	44.0	19.0	0.0
Wolverine	44502	9	6357	31	21821	15	11257	5	5067	17.4	48.3	27.5	6.8
Fascination	43950	6	4235	14	9472	27	18728	15	11515	14.4	28.2	38.6	18.8
7187HQ	42553	13	9310	21	14510	24	17281	2	1452	15.4	26.8	55.4	2.4
Distinction	42283	11	7663	19	13075	20	14260	9	7285	15.0	33.8	28.6	22.6
7197HQ	40607	13	9371	23	15911	17	12005	4	3321	20.9	40.9	23.4	14.7
SV0241WA	37615	6	4540	25	16999	23	16076	0	0	14.3	45.7	40.0	0.0
USAWX90020	34228	1	787	10	7381	30	21115	7	4946	1.4	14.1	47.9	11.6
5234 Plus	33268	7	5210	16	10648	19	13982	4	3428	19.4	35.2	39.7	5.7
Secretariat	30808	16	11145	21	14211	5	3771	2	1681	34.0	55.4	7.8	2.9
Bold Ruler	28309	14	9613	9	6672	13	9403	3	2622	35.5	24.2	30.6	9.7

[z]Percent of fruit in each category determined by dividing the yield of a given size class by the total yield for that variety.
[y]Number of bins per acre determined by dividing the number of fruit per acre by the count of each bin.

Table 3. Yield in pounds and bins per acre as well as percent of melons in each size category for the second watermelon harvest (2 July 2014). Varieties ranked in descending order based on total yield in lbs/acre.

Variety	Total Yield	60 Count		45 Count		36 Count		30 Count		Percent 60 count	Percent 45 count	Percent 36 count	Percent 30 count
	(lbs/acre)	(bins/acre)	(lbs/acre)	(bins/acre)	(lbs/acre)	(bins/acre)	(lbs/acre)	(bins/acre)	(lbs/acre)	(%)[z]			
ACX6177	66167	13[y]	9850	27	18758	44	31245	8	6315	19.1	29.5	46.5	4.9
Wolverine	59061	13	9370	27	18145	39	27428	5	4119	21.0	34.9	37.4	6.8
Troubadour	58390	26	18520	44	30750	13	9120	0	0	37.5	46.7	15.8	0.0
USAWX90020	57436	7	4858	23	15975	37	27567	12	9036	1.3	25.5	50.3	13.9
Nun01009	51985	7	5563	22	15083	45	31340	0	0	7.7	25.0	67.3	0.0
Crunchy Red	50938	4	3286	20	14014	45	32004	2	1634	6.7	27.2	61.3	4.8
Distinction	47135	6	4415	31	21314	20	15099	7	6307	10.0	43.5	36.1	10.4
7187HQ	45710	6	4436	30	20234	28	19454	2	1585	9.1	47.0	41.5	2.5
SV0241WA	45705	13	9807	26	18057	25	17842	0	0	17.5	35.2	47.2	0.0
9651HQ	43497	5	3600	20	13295	34	24145	3	2458	7.2	32.4	53.2	7.2
Razorback	43020	11	7780	19	13159	26	19008	4	3073	25.6	21.2	47.0	3.2
Traveler	42653	15	11301	23	15869	22	15482	0	0	22.7	39.9	37.4	0.0
Charismatic	39315	9	6583	20	13640	21	15584	5	3509	15.1	37.6	42.0	5.3
7197HQ	38985	7	5372	13	9328	33	22672	2	1613	11.5	28.6	56.3	3.7
Declaration	38376	6	4648	22	15096	23	17120	2	1513	10.8	41.9	44.7	2.6
Exclamation	38243	7	5196	18	12354	26	19127	2	1566	15.9	30.7	49.2	4.2
Fascination	38242	6	4593	16	10874	31	21305	2	1470	12.7	31.9	52.7	2.7
5234 Plus	35052	16	12280	11	8047	20	14725	0	0	48.5	17.4	34.1	0.0
Bold Ruler	32870	14	9952	22	15025	11	7893	0	0	30.3	46.8	22.9	0.0
7387HQ	31409	7	4921	10	6647	14	11057	11	8784	12.6	25.5	41.4	20.5
Secretariat	29077	2	1620	25	17468	13	9989	0	0	4.0	62.5	33.5	0.0
Melody	18504	10	7909	8	5516	8	5079	0	0	57.1	23.6	19.3	0.0

[z]Percent of fruit in each category determined by dividing the yield of a given size class by the total yield for that variety.

[y]Number of bins per acre determined by dividing the number of fruit per acre by the count of each bin.

Table 4. Total harvested yield in pounds and bins per acre as well as percent of melons in each size category for 3 harvests. Varieties ranked in descending order based on total yield in lbs/acre.

Variety	Total Yield (lbs/acre)		Yield (45 + 36) Count (lbs/acre)		60 Count (lbs/acre)		45 Count (lbs/acre)		36 Count (lbs/acre)		30 Count (lbs/acre)	
9651HQ	157439	a[z]	124461	a	28478	bc	66205	a	58257	a-e	4500	b
Wolverine	139945	abc	113867	ab	16894	c-g	57525	abc	56341	a-f	9185	b
ACX6177	139733	a-d	111284	abc	18270	c-g	49937	a-d	61347	abc	10180	b
Declaration	134150	a-d	110644	abc	14431	c-g	49572	a-d	61072	abc	9075	b
Troubadour	132263	a-e	87474	b-g	44789	a	61243	ab	26232	hi	0	c
Nun01009	130031	a-e	108842	a-d	15610	c-g	48053	a-e	60789	abc	5579	b
7387HQ	121257	a-f	84907	b-g	9922	fg	31114	def	53793	a-g	26428	a
Crunchy Red	119176	a-f	103606	a-e	8917	fg	31855	def	71752	ab	6653	b
Distinction	117792	a-g	88613	b-g	15587	c-g	47489	a-e	41125	c-i	13593	ab
Charismatic	117294	b-g	84654	b-g	27241	b-e	44405	b-f	40249	c-i	5400	b
7187 HQ	115116	b-g	89832	a-f	18498	c-g	41408	c-f	48784	b-h	6785	b
Exclamation	112015	b-g	87602	b-g	14570	c-g	39134	c-f	48468	b-h	9843	b
USAWX90020	111745	b-g	87733	b-g	10031	fg	28862	ef	58871	a-d	13982	ab
Traveler	111223	b-g	77023	c-g	34201	ab	47420	a-f	29603	f-i	0	c
Razorback	105252	b-g	79309	b-g	21296	b-g	33550	def	45759	b-i	4647	b
Fascination	99500	c-g	72752	efg	13762	efg	28585	ef	44167	c-i	12986	ab
SV0241WA	98992	d-g	78834	c-g	20159	b-g	40880	c-f	37955	c-i	0	c
7197HQ	92886	efg	66511	fg	21441	b-g	28150	f	38361	c-i	4934	b
Melody	88975	fg	61010	gf	27965	bcd	29248	ef	31762	e-i	0	c
5234 Plus	88680	fg	62938	fg	22315	b-f	29464	ef	33474	d-i	3428	b
Secretariat	80712	fg	62170	fg	16862	c-g	43191	b-f	18979	i	1681	c
Bold Ruler	77671	g	53764	g	21286	b-g	30603	def	23161	hi	2622	b

[z] Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

Table 5. Total harvested yield in pounds and bins per acre as well as percent of melons in each size category for 3 harvests. Varieties ranked in descending order based on total combined yield of 36 and 45 count fruit.

Variety	Total Yield (lbs/acre)		Yield (45 + 36) Count (lbs/acre)		60 Count (lbs/acre)		45 Count (lbs/acre)		36 Count (lbs/acre)		30 Count (lbs/acre)	
9651HQ	157439	a[z]	124461	a	28478	bc	66205	a	58257	a-e	4500	b
Wolverine	139945	abc	113867	ab	16894	c-g	57525	abc	56341	a-f	9185	b
ACX6177	139733	a-d	111284	abc	18270	c-g	49937	a-d	61347	abc	10180	b
Declaration	134150	a-d	110644	abc	14431	c-g	49572	a-d	61072	abc	9075	b
Nun01009	130031	a-e	108842	a-d	15610	c-g	48053	a-e	60789	abc	5579	b
Crunchy Red	119176	a-f	103606	a-e	8917	fg	31855	def	71752	ab	6653	b
7187 HQ	115116	b-g	89832	a-f	18498	c-g	41408	c-f	48784	b-h	6785	b
Distinction	117792	a-g	88613	b-g	15587	c-g	47489	a-e	41125	c-i	13593	ab
USAWX90020	111745	b-g	87733	b-g	10031	fg	28862	ef	58871	a-d	13982	ab
Exclamation	112015	b-g	87602	b-g	14570	c-g	39134	c-f	48468	b-h	9843	b
Troubadour	132263	a-e	87474	b-g	44789	a	61243	ab	26232	hi	0	c
7387HQ	121257	a-f	84907	b-g	9922	fg	31114	def	53793	a-g	26428	a
Charismatic	117294	b-g	84654	b-g	27241	b-e	44405	b-f	40249	c-i	5400	b
Razorback	105252	b-g	79309	b-g	21296	b-g	33550	def	45759	b-i	4647	b
SV0241WA	98992	d-g	78834	c-g	20159	b-g	40880	c-f	37955	c-i	0	c
Traveler	111223	b-g	77023	c-g	34201	ab	47420	a-f	29603	f-i	0	c
Fascination	99500	c-g	72752	efg	13762	efg	28585	ef	44167	c-i	12986	ab
7197HQ	92886	efg	66511	fg	21441	b-g	28150	f	38361	c-i	4934	b
5234 Plus	88680	fg	62938	fg	22315	b-f	29464	ef	33474	d-i	3428	b
Secretariat	80712	fg	62170	fg	16862	c-g	43191	b-f	18979	i	1681	c
Melody	88975	fg	61010	gf	27965	bcd	29248	ef	31762	e-i	0	c
Bold Ruler	77671	g	53764	g	21286	b-g	30603	def	23161	hi	2622	b

[z] Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

Table 6. Total harvested yield in pounds per acre as well as percent of melons in each size category for 3 harvests. Varieties ranked in descending order based on total yield of 36 count fruit.

Variety	Total Yield (lbs/acre)		Yield (45 + 36) Count (lbs/acre)		60 Count (lbs/acre)		45 Count (lbs/acre)		36 Count (lbs/acre)		30 Count (lbs/acre)	
Crunchy Red	119176	a-f	103606	a-e	8917	fg	31855	def	71752	ab	6653	b
ACX6177	139733	a-d	111284	abc	18270	c-g	49937	a-d	61347	abc	10180	b
Declaration	134150	a-d	110644	abc	14431	c-g	49572	a-d	61072	abc	9075	b
Nun01009	130031	a-e	108842	a-d	15610	c-g	48053	a-e	60789	abc	5579	b
USAWX90020	111745	b-g	87733	b-g	10031	fg	28862	ef	58871	a-d	13982	ab
9651HQ	157439	a[z]	124461	a	28478	bc	66205	a	58257	a-e	4500	b
Wolverine	139945	abc	113867	ab	16894	c-g	57525	abc	56341	a-f	9185	b
7387HQ	121257	a-f	84907	b-g	9922	fg	31114	def	53793	a-g	26428	a
7187 HQ	115116	b-g	89832	a-f	18498	c-g	41408	c-f	48784	b-h	6785	b
Exclamation	112015	b-g	87602	b-g	14570	c-g	39134	c-f	48468	b-h	9843	b
Razorback	105252	b-g	79309	b-g	21296	b-g	33550	def	45759	b-i	4647	b
Fascination	99500	c-g	72752	efg	13762	efg	28585	ef	44167	c-i	12986	ab
Distinction	117792	a-g	88613	b-g	15587	c-g	47489	a-e	41125	c-i	13593	ab
Charismatic	117294	b-g	84654	b-g	27241	b-e	44405	b-f	40249	c-i	5400	b
7197HQ	92886	efg	66511	fg	21441	b-g	28150	f	38361	c-i	4934	b
SV0241WA	98992	d-g	78834	c-g	20159	b-g	40880	c-f	37955	c-i	0	c
5234 Plus	88680	fg	62938	fg	22315	b-f	29464	ef	33474	d-i	3428	b
Melody	88975	fg	61010	gf	27965	bcd	29248	ef	31762	e-i	0	c
Traveler	111223	b-g	77023	c-g	34201	ab	47420	a-f	29603	f-i	0	c
Troubadour	132263	a-e	87474	b-g	44789	a	61243	ab	26232	hi	0	c
Bold Ruler	77671	g	53764	g	21286	b-g	30603	def	23161	hi	2622	b
Secretariat	80712	fg	62170	fg	16862	c-g	43191	b-f	18979	i	1681	c

[z] Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

Table 7. Total harvested yield in pounds and bins per acre as well as percent of melons in each size category for 3 harvests. Varieties ranked in descending order based on total yield of 45 count fruit.

Variety	Total Yield (lbs/acre)		Yield (45 + 36) Count (lbs/acre)		60 Count (lbs/acre)		45 Count (lbs/acre)		36 Count (lbs/acre)		30 Count (lbs/acre)	
9651HQ	157439	a[z]	124461	a	28478	bc	66205	a	58257	a-e	4500	b
Troubadour	132263	a-e	87474	b-g	44789	a	61243	ab	26232	hi	0	c
Wolverine	139945	abc	113867	ab	16894	c-g	57525	abc	56341	a-f	9185	b
ACX6177	139733	a-d	111284	abc	18270	c-g	49937	a-d	61347	abc	10180	b
Declaration	134150	a-d	110644	abc	14431	c-g	49572	a-d	61072	abc	9075	b
Nun01009	130031	a-e	108842	a-d	15610	c-g	48053	a-e	60789	abc	5579	b
Distinction	117792	a-g	88613	b-g	15587	c-g	47489	a-e	41125	c-i	13593	ab
Traveler	111223	b-g	77023	c-g	34201	ab	47420	a-f	29603	f-i	0	c
Charismatic	117294	b-g	84654	b-g	27241	b-e	44405	b-f	40249	c-i	5400	b
Secretariat	80712	fg	62170	fg	16862	c-g	43191	b-f	18979	i	1681	c
7187 HQ	115116	b-g	89832	a-f	18498	c-g	41408	c-f	48784	b-h	6785	b
SV0241WA	98992	d-g	78834	c-g	20159	b-g	40880	c-f	37955	c-i	0	c
Exclamation	112015	b-g	87602	b-g	14570	c-g	39134	c-f	48468	b-h	9843	b
Razorback	105252	b-g	79309	b-g	21296	b-g	33550	def	45759	b-i	4647	b
Crunchy Red	119176	a-f	103606	a-e	8917	fg	31855	def	71752	ab	6653	b
7387HQ	121257	a-f	84907	b-g	9922	fg	31114	def	53793	a-g	26428	a
Bold Ruler	77671	g	53764	g	21286	b-g	30603	def	23161	hi	2622	b
5234 Plus	88680	fg	62938	fg	22315	b-f	29464	ef	33474	d-i	3428	b
Melody	88975	fg	61010	gf	27965	bcd	29248	ef	31762	e-i	0	c
USAWX90020	111745	b-g	87733	b-g	10031	fg	28862	ef	58871	a-d	13982	ab
Fascination	99500	c-g	72752	efg	13762	efg	28585	ef	44167	c-i	12986	ab
7197HQ	92886	efg	66511	fg	21441	b-g	28150	f	38361	c-i	4934	b

[z] Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

Table 8. Average fruit weight for each variety for the total trial and each harvest (1,2, and 3) as well as the percentage of fruit in each class (60,45,36, and 30).

Variety	Avg. Fruit Weight (total)	Avg. Fruit Weight (Harvest 1)	Avg. Fruit Weight (Harvest 2)	Avg. Fruit Weight (Harvest 3)	60 Count	45 Count	36 Count	30 Count
	(lb/fruit)				(%)[z]			
USAWX90020	18.2	19.1	18.4	18.1	9.8	25.5	53.2	11.6
7387HQ	18.2	19.0	18.3	16.7	9.0	26.5	43.5	20.9
Crunchy Red	18.2	18.5	18.3	17.2	7.7	26.1	59.8	6.4
Nun01009	17.3	17.8	17.6	14.0	11.1	36.3	47.8	4.7
Distinction	17.3	17.7	17.7	16.3	13.2	40.0	34.8	11.9
Exclamation	17.3	17.5	17.3	15.9	13.1	35.3	43.4	8.2
ACX6177	17.2	17.0	17.0	17.1	13.4	35.8	44.2	6.8
Declaration	17.1	17.4	16.8	15.7	11.8	38.4	44.3	5.5
Fascination	16.9	17.9	16.7	15.5	16.8	30.2	41.9	11.2
Wolverine	16.6	16.5	16.3	16.9	13.7	44.0	37.1	5.2
7187 HQ	16.4	16.9	16.6	16.7	16.8	36.6	41.6	5.0
7197HQ	16.3	16.6	17.0	13.9	22.3	30.0	41.6	6.2
Razorback	16.2	16.3	16.4	15.3	21.6	32.5	41.6	4.2
SV0241WA	16.1	16.4	16.4	15.0	19.3	41.0	39.7	0.0
Charismatic	16.1	16.1	16.6	15.3	22.4	38.0	36.0	3.5
9651HQ	16.0	15.6	17.9	13.9	18.5	41.9	36.1	3.5
SV2757WA	15.6	15.7	16.0	13.5	18.1	51.8	30.0	0.0
Bold Ruler	15.5	16.0	14.9	16.4	28.8	37.8	30.6	4.0
Melody	15.5	15.6	14.5	14.8	27.6	33.7	37.5	0.0
Secretariat	15.5	14.3	16.9	15.3	20.1	54.2	24.3	1.5
Traveler	15.0	14.4	15.9	14.7	30.7	42.3	27.0	0.0
Troubadour	14.6	14.8	14.5	14.7	35.1	44.5	20.4	0.0

[z]Percent of fruit in each category determined by dividing the yield of a given size class by the total yield for that variety.

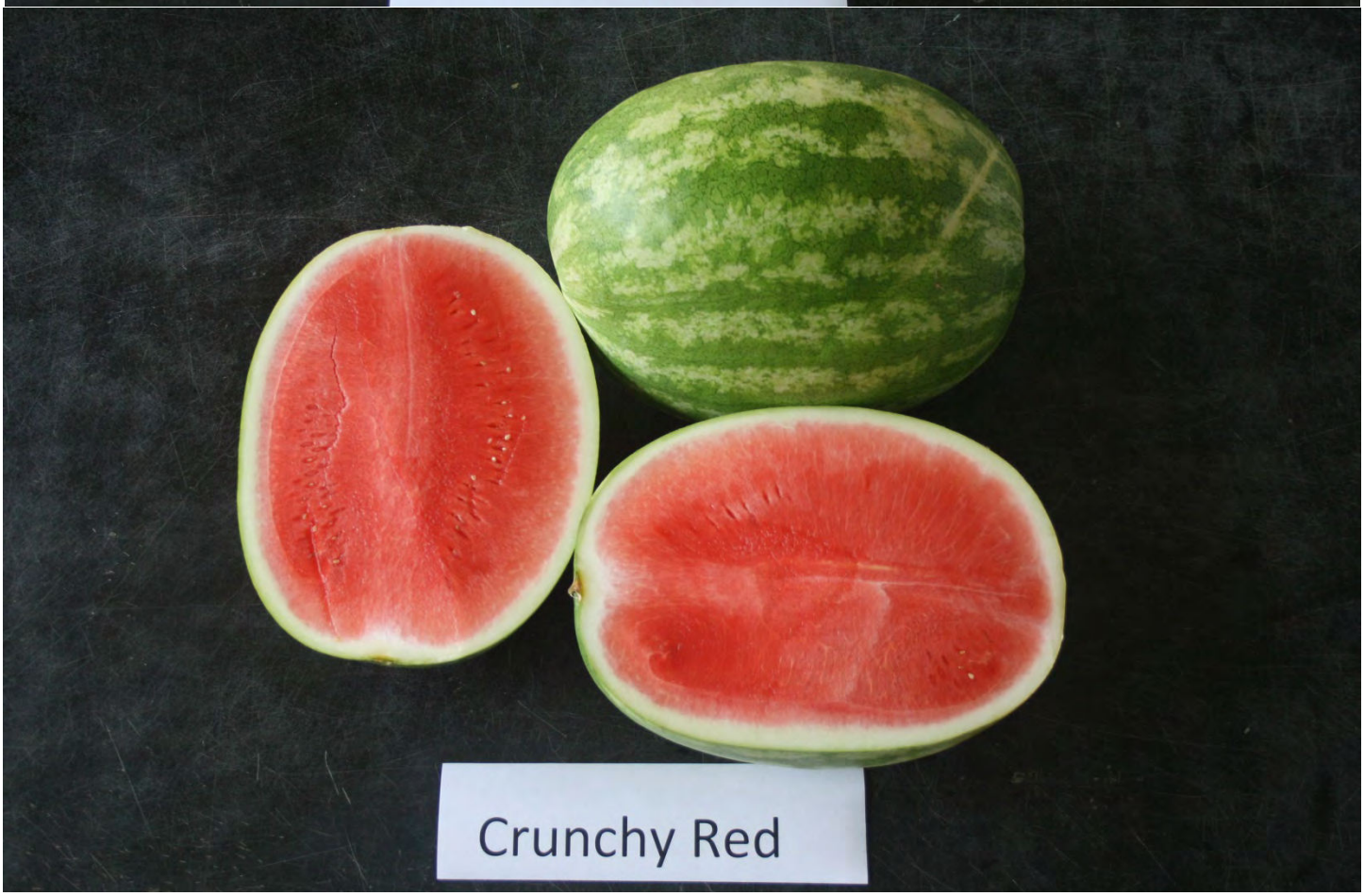
Table 9. Quality data including firmness, sugars (brix), hollow heart incidence, hard seed incidence, length and width of 4 harvested fruit from each variety from the second (2 July) harvest.

Variety	Sugars (Brix) (%)		Firmness (lbs force)		Avg. Hollow Heart (1-4)	Hard Seed[y] seed/melon	Length (in)	Width (in)
Wolverine	12.0	ab	4.1	b-e	1.25	1.4	10.3	9.3
7187 HQ	11.8	abc	3.9	b-g	0.88	0.3	11.2	8.8
Troubadour	11.7	a-e	4.3	a-d	0.00	0.9	10.4	8.3
Bold Ruler	11.7	a-e	3.8	c-g	0.33	0.4	10.5	8.6
9651HQ	11.7	a-e	3.8	d-g	0.44	1.0	10.0	8.6
Declaration	11.7	a-f	3.7	e-g	0.38	0.0	11.4	8.8
7197HQ	11.6	a-g	4.2	a-e	0.69	0.3	11.0	8.5
USAWX90020	11.5	a-g	3.3	hi	0.75	0.5	11.9	9.0
ACX6177	11.4	b-g	4.4	ab	0.44	0.1	10.6	9.0
Nun01009	11.4	b-g	3.7	e-i	0.69	0.4	11.5	8.8
Crunchy Red	11.3	b-g	4.7	a	0.38	0.4	11.8	8.9
Exclamation	11.3	b-g	3.8	c-g	0.06	0.3	10.5	9.3
5234 Plus	11.2	b-g	4.0	b-f	0.81	1.6	11.5	8.6
SV0241WA	11.2	c-g	3.4	ghi	0.75	0.8	11.2	8.7
Razorback	11.0	d-g	4.3	abc	0.00	0.4	10.3	9.1
Traveler	11.0	d-g	4.1	b-f	0.00	0.8	10.1	8.8
Secretariat	11.0	d-g	4.0	b-f	0.25	0.3	10.3	8.6
7387HQ	10.9	efg	4.2	a-e	0.33	0.2	11.5	9.3
Distinction	10.9	efg	3.8	c-g	0.44	0.1	10.3	9.4
Melody	10.9	efg	3.2	i	1.19	0.1	9.9	9.2
Charismatic	10.8	g	4.0	b-f	1.06	1.0	10.0	9.0
Fascination	10.8	g	3.9	b-g	0.69	0.6	11.1	8.9

[z] Means within the same column followed by the same letters are not significantly different according to Fisher's least significant difference test, $P<0.05$.

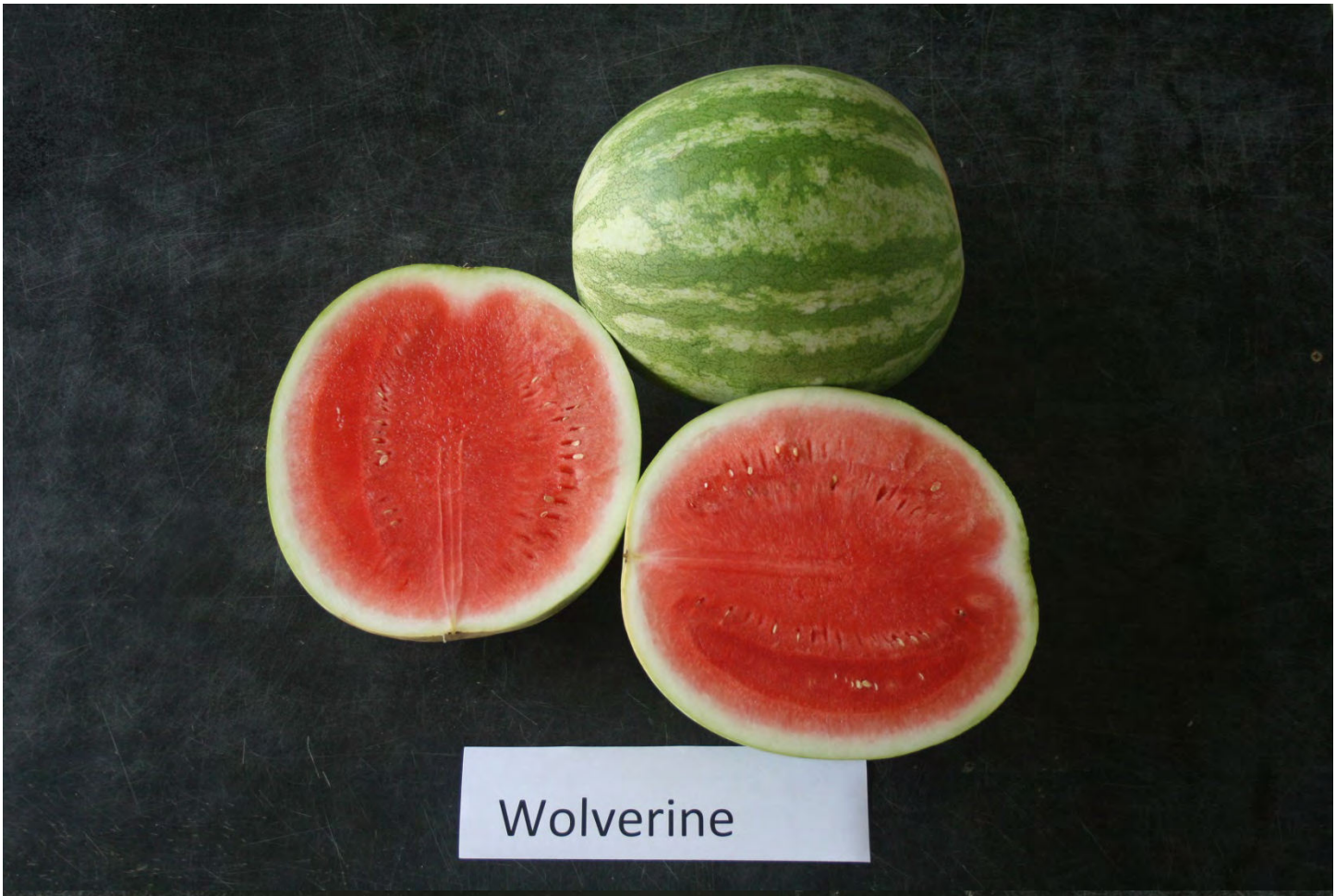
[y] Hard seed counted in quartered melons (4 melons quartered) and then divided by number of quarters counted to determine average seed per melon.

Figure 3. Photos of melons trialed. z




Troubadour


Traveler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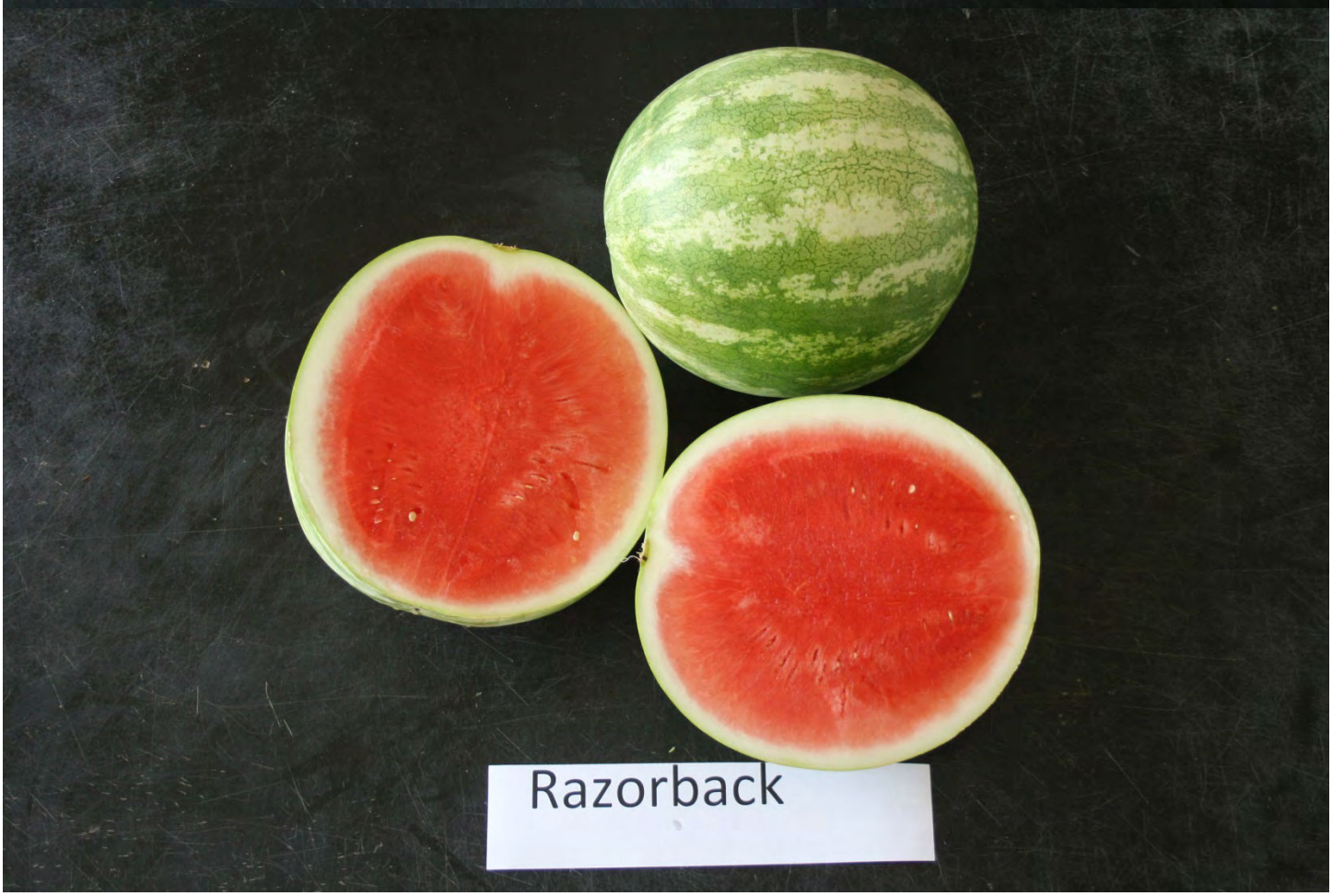

Razorback

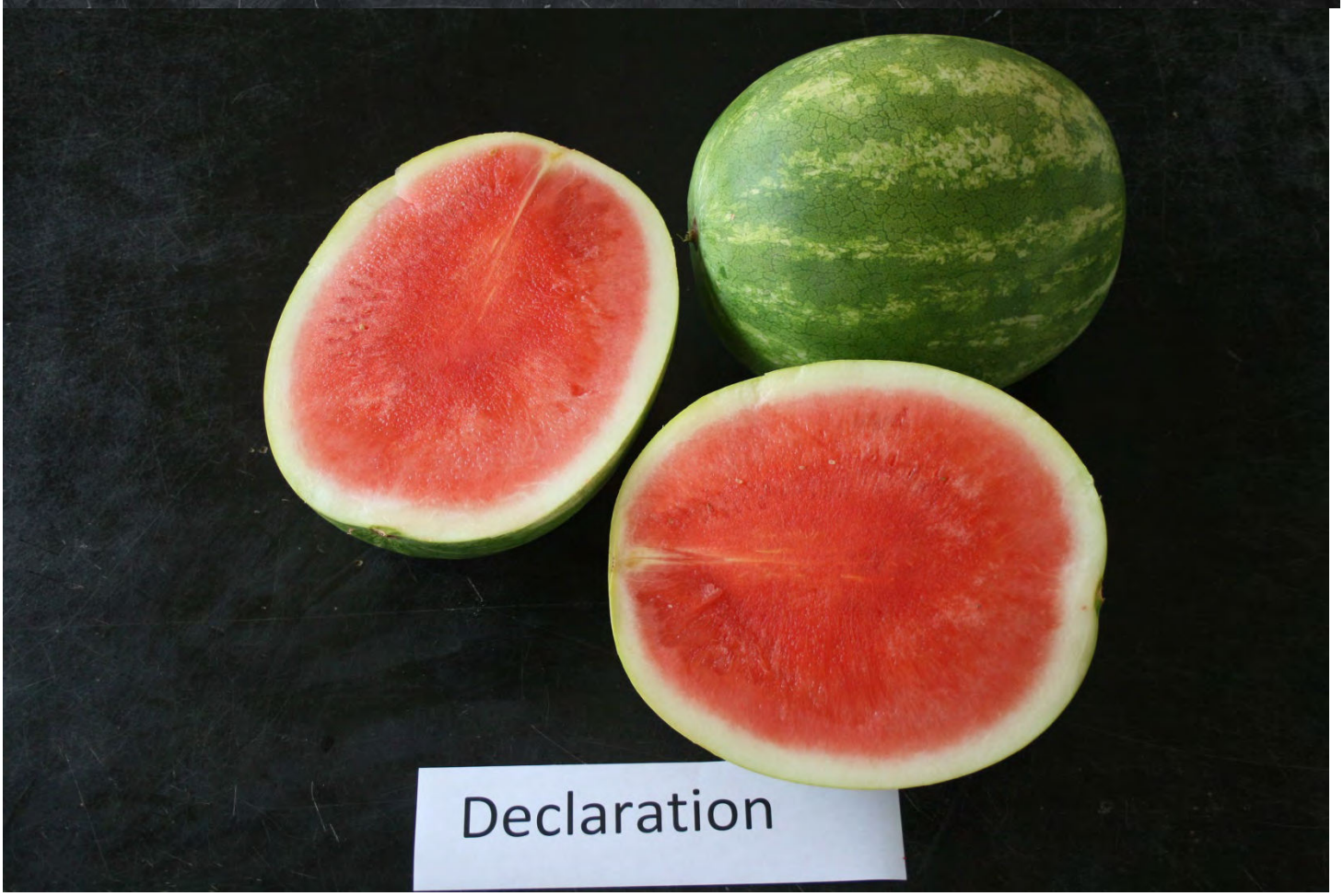

9651 HQ


5234 Plus

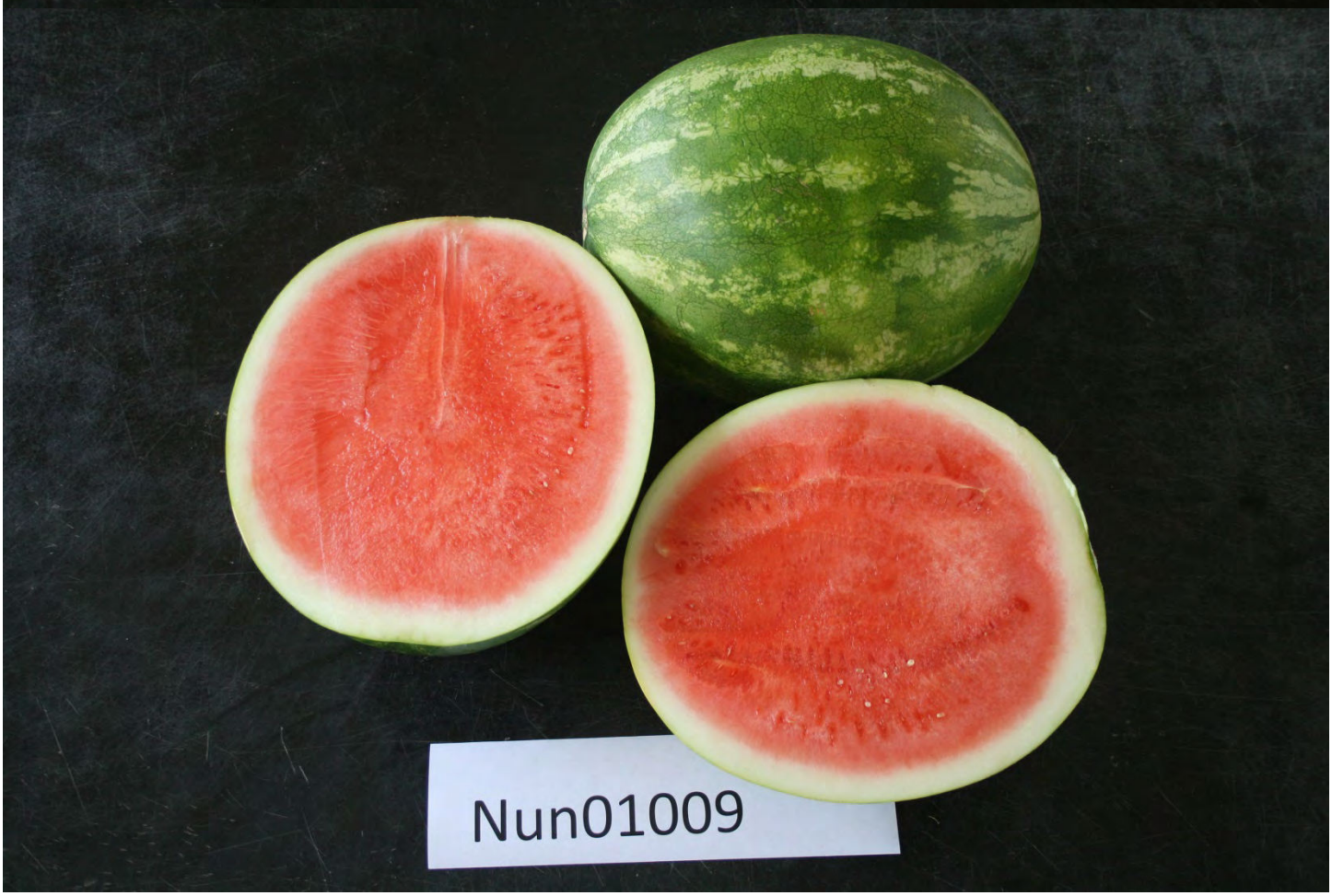

7197 HQ


7187 HQ


7387 HQ


Declaration


ACX6177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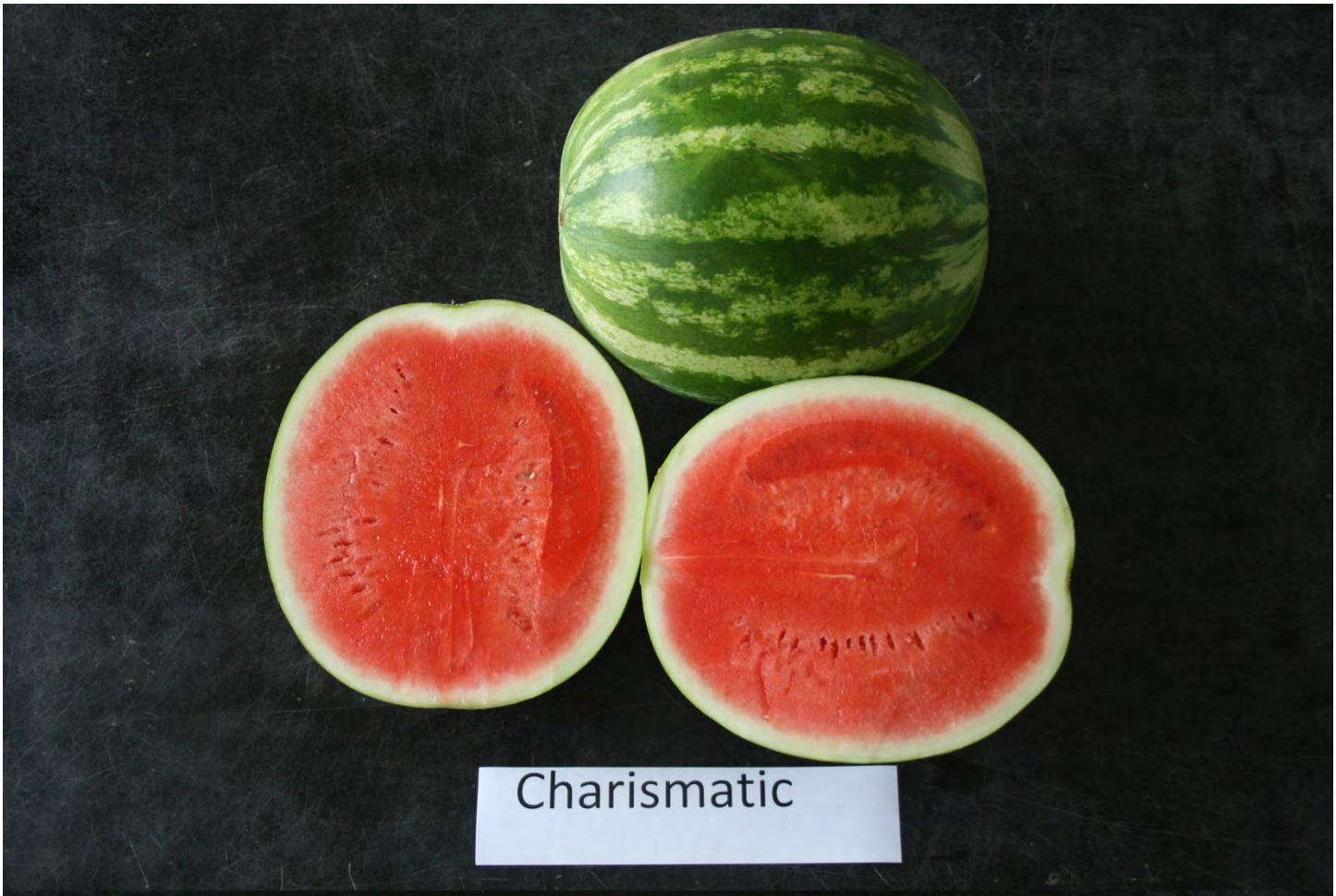
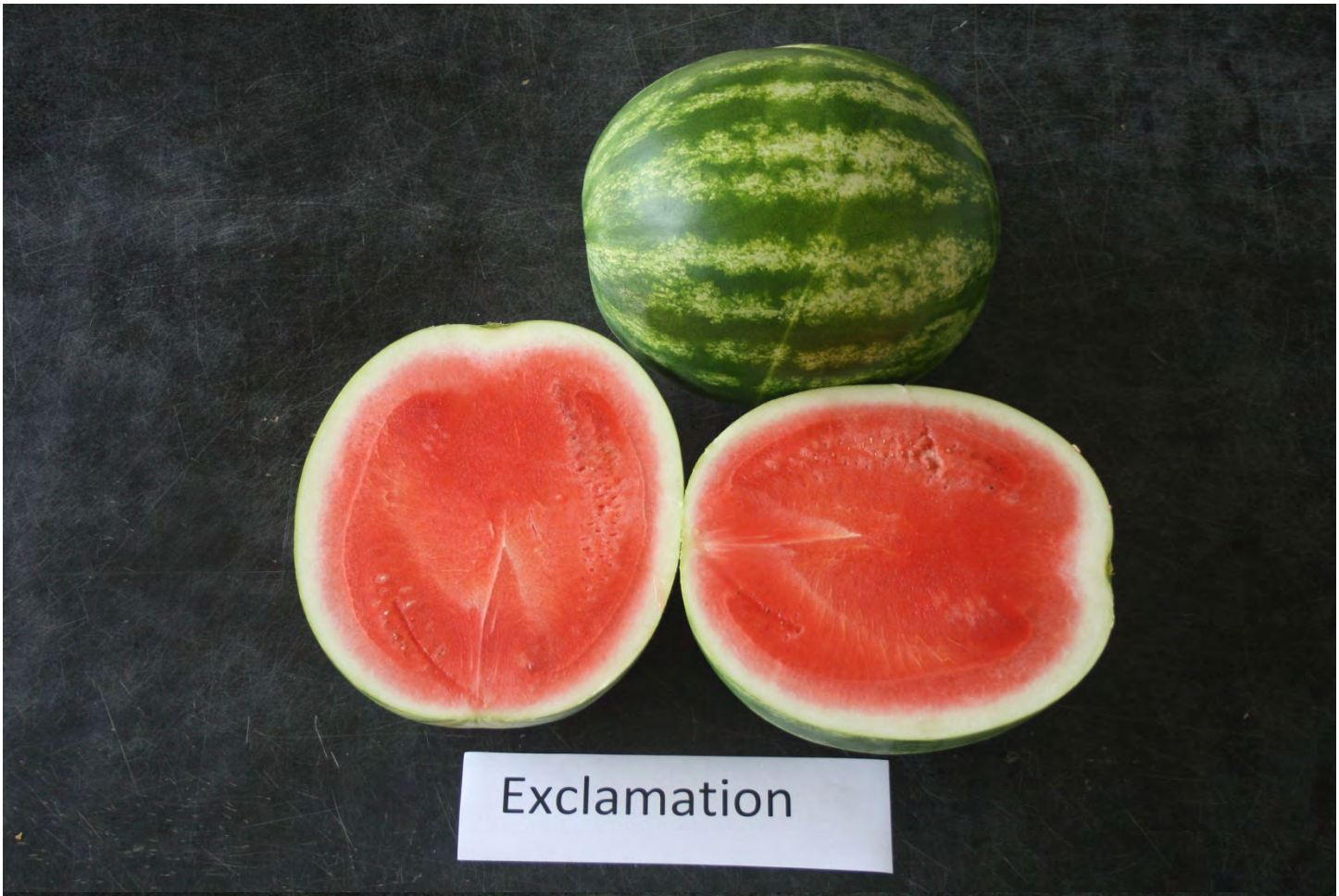

Charismatic


Secretariat


Bold Ruler


SV0241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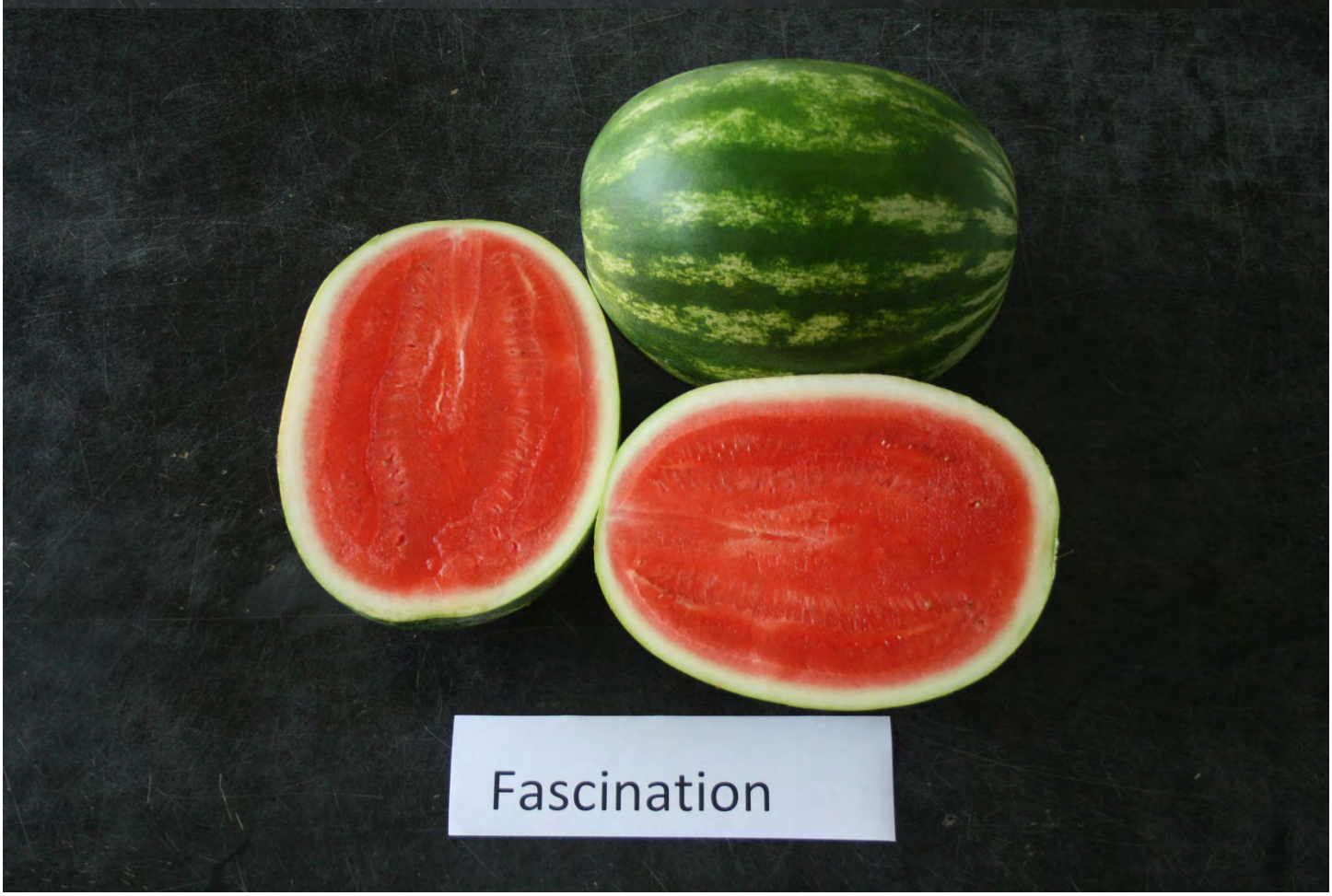
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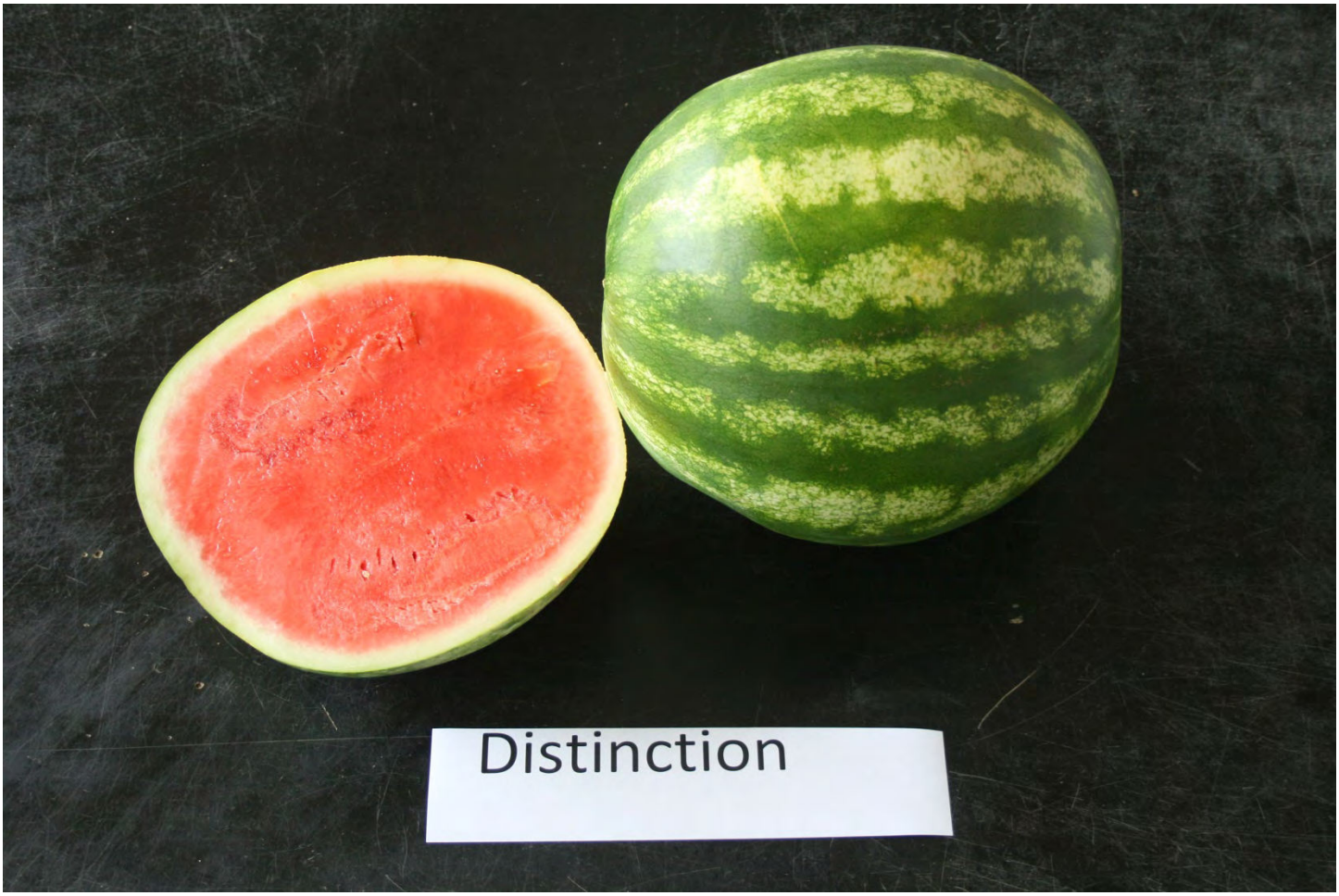
Distinction


Melody

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

Date	Max Temp.	Min. Temp.	Rainfall (in.)		Date	Max Temp.	Min. Temp.	Rainfall (in.)
Mar 31, 2014	77.9	42.6	0.00		May 16, 2014	74.7	48.9	0.00
Apr 1, 2014	80.4	48.9	0.00		May 17, 2014	78.6	50.2	0.00
Apr 2, 2014	80.4	49.8	0.00		May 18, 2014	82.8	57.7	0.00
Apr 3, 2014	82.8	55.8	0.00		May 19, 2014	80.4	59.2	0.00
Apr 4, 2014	80.1	58.6	0.00		May 20, 2014	83.1	61.0	0.00
Apr 5, 2014	76.1	61.3	0.03		May 21, 2014	85.8	63.0	0.00
Apr 6, 2014	64.6	58.6	0.76		May 22, 2014	87.8	65.1	0.00
Apr 7, 2014	70.9	62.4	2.25		May 23, 2014	90.1	67.8	0.00
Apr 8, 2014	67.6	54.1	0.02		May 24, 2014	88.9	68.2	0.00
Apr 9, 2014	69.6	48.2	0.00		May 25, 2014	91.8	68.2	0.00
Apr 10, 2014	74.1	47.1	0.00		May 26, 2014	87.6	64.9	0.00
Apr 11, 2014	75.6	50.4	0.00		May 27, 2014	84.6	66.7	0.00
Apr 12, 2014	80.8	54.3	0.00		May 28, 2014	88.2	69.1	0.08
Apr 13, 2014	80.8	59.0	0.00		May 29, 2014	87.8	67.8	0.00
Apr 14, 2014	80.6	63.7	0.00		May 30, 2014	88.3	67.8	0.94
Apr 15, 2014	68.9	43.2	1.14		May 31, 2014	88.0	68.5	0.01
Apr 16, 2014	61.7	37.4	0.00		Jun 1, 2014	80.4	68.9	0.02
Apr 17, 2014	66.9	46.0	0.00		Jun 2, 2014	80.6	67.6	0.00
Apr 18, 2014	59.2	53.6	2.82		Jun 3, 2014	83.1	68.2	0.00
Apr 19, 2014	58.8	52.3	0.20		Jun 4, 2014	88.2	65.5	0.00
Apr 20, 2014	66.2	51.3	0.01		Jun 5, 2014	89.1	70.5	0.00
Apr 21, 2014	76.5	49.1	0.00		Jun 6, 2014	91.8	68.5	0.43
Apr 22, 2014	78.3	55.4	0.00		Jun 7, 2014	85.6	66.6	0.02
Apr 23, 2014	80.6	60.4	0.00		Jun 8, 2014	89.4	69.3	0.02
Apr 24, 2014	83.3	60.3	0.00		Jun 9, 2014	89.8	69.8	0.00
Apr 25, 2014	80.8	62.4	0.01		Jun 10, 2014	89.4	69.3	0.61
Apr 26, 2014	83.1	57.7	0.00		Jun 11, 2014	86.2	69.6	0.01
Apr 27, 2014	82.9	61.3	0.00		Jun 12, 2014	86.9	70.9	0.00
Apr 28, 2014	83.8	64.8	0.00		Jun 13, 2014	85.5	68.4	0.00
Apr 29, 2014	72.1	64.0	0.57		Jun 14, 2014	88.0	68.2	0.35
Apr 30, 2014	72.3	64.8	0.90		Jun 15, 2014	91.0	69.8	0.10
May 1, 2014	65.5	57.0	0.36		Jun 16, 2014	90.7	70.7	0.17
May 2, 2014	67.1	56.1	0.01		Jun 17, 2014	90.9	69.3	0.00
May 3, 2014	74.7	54.7	0.00		Jun 18, 2014	91.8	70.5	0.00
May 4, 2014	84.0	55.9	0.00		Jun 19, 2014	92.3	70.9	0.00
May 5, 2014	87.4	59.5	0.00		Jun 20, 2014	92.3	70.5	0.00
May 6, 2014	84.6	60.8	0.00		Jun 21, 2014	93.0	70.9	0.23
May 7, 2014	86.7	58.8	0.00		Jun 22, 2014	89.6	68.7	0.24
May 8, 2014	86.5	64.4	0.00		Jun 23, 2014	87.4	69.3	0.00
May 9, 2014	84.2	67.5	0.00		Jun 24, 2014	86.5	68.0	0.64
May 10, 2014	83.8	67.1	0.50		Jun 25, 2014	88.9	70.2	0.04
May 11, 2014	87.6	67.6	1.21		Jun 26, 2014	88.2	72.3	0.00
May 12, 2014	87.1	66.6	0.00		Jun 27, 2014	89.4	72.7	0.00
May 13, 2014	86.4	65.1	0.00		Jun 28, 2014	91.2	71.8	0.00

May 14, 2014	86.0	67.1	3.22		Jun 29, 2014	92.3	71.2	0.00
May 15, 2014	70.9	54.3	2.08		Jun 30, 2014	92.8	74.1	0.00
Jul 1, 2014	93.2	71.2	0.00					
Jul 2, 2014	95.0	72.1	0.00					
Jul 3, 2014	93.2	74.5	0.00					
Jul 4, 2014	86.2	67.1	0.00					
Jul 5, 2014	91.0	67.1	0.00					
Jul 6, 2014	90.0	70.5	0.79					
Jul 7, 2014	89.4	69.4	0.00					
Jul 8, 2014	90.7	71.4	0.00					
Jul 9, 2014	91.6	72.1	0.00					