

WATERMELON AND CANTALOUPE VARIETY TRIALS, 2004

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Introduction

Watermelon and cantaloupe variety trials were conducted at the Vidalia Onion and Vegetable Research Center near Reidsville, GA in Toombs County. These annual trials are to determine suitability of varieties submitted by seed companies for production in Georgia.

Methods

There were 36 entries in the watermelon trial and seven in the cantaloupe trial. Plants were produced in a local greenhouse seeded on April 7, 2004 and transplanted to the field on May 18, 2004.

Fields were prepared according to University of Georgia Cooperative Extension Service recommendations for watermelon and cantaloupe production. Seven hundred fifty pounds of 10-10-10 fertilizer was preplant incorporated and an additional 750 pounds of 10-10-10 was applied approximately four weeks later just prior to vine coverage. Weed control followed University of Georgia Cooperative Extension Service recommendations, however, no disease or insect control measures were taken. The experiments were arranged as randomized complete block designs with four replications. Watermelons were planted with an in-row spacing of 5 ft. and a between row spacing of 6 ft. Each plot (experimental unit) consisted of 10 plants. The cantaloupe experiment had plants set 3 ft in-row with a 6 ft between-row spacing and also had 10 plants per plot.

Watermelons were harvested on July 8-9, 2004 and again on July 12, 2004. Cantaloupes were harvested on July 6 and 12, 2004.

Data collected on the watermelon harvest included weight of each individual fruit, and two melons were cut from each plot to ascertain the length, width, rind depth, and

soluble solids (percent sugar). In addition, the color was rated from 1-5 with 1 indicating excellent color and 5 indicating poor color. The color assessment attempted to quantify the color quality without bias between dark red, red, and yellow fleshed melons.

The watermelon description in table 1 is the seed company descriptor that was written on the seed packet or came with the seed. The comments are our comments as noted during melon cutting. Occasionally, there may be discrepancies in these comments, which reflect differences among replications primarily due to variability in the variety.

Results

The yield results of the watermelon trial are summarized in table 1. Yield ranged from 9,202 pounds per acre for WS Crimson Palm to 54,987 pounds per acre for Olé. The lower yields generally occurred among the smaller fruited watermelons, several of which had 100% of their fruit in the below 10 pound size class.

The watermelon fruit characteristics are summarized in table 2. Recently, several seed companies have introduced ‘palm’ or personal size watermelons. These watermelons are characterized by having weights averaging 3-7 pounds. Many are seedless and differ from other small seedless watermelons in having a very thin rind. We tested several in this class from Wannamaker Seed Co. and Rogers Seed Co. There were both seeded and seedless as well as red and yellow-fleshed varieties among the personal sized watermelon tested.

Only four entries had any melons in the larger than 30 pound class. These varieties only had 1-2% of their melons in this size. The majority of entries had melons in the 10 to 20 pound size class. This reflects the demand in the commercial market for small to medium size melons.

There continues to be a wide selection of watermelons from several different seed companies available in Georgia. No single variety dominates the market. Seeded and seedless watermelons continue to be grown in Georgia varying in size and rind type. Personal melons have found a niche, but are primarily being marketed directly by seed companies under contract production or exclusive release. This marketing method will garner higher profits for the seed companies, but may also reflect the fact that personal melons tend to have lower yields making it difficult for growers to make money on a per pound basis with these melons.

The results of the cantaloupe trial are summarized in table 3. There were no statistically significant differences among the varieties in the trial. All were Athena type melons with the exception of WS-SP04, which we characterized as a honeydew. The seed company descriptor indicated it is a ‘Sprite-type’, but the fruit were larger than a typical sprite melon.

No soluble sugars are reported this year for cantaloupe because the fruit were immature at harvest. In the past, we have had a lot of trouble with southern blight infecting the fruit immediately upon ripening particularly since we grow these on bareground. To combat this problem we harvested earlier than usual, however, the fruit never matured sufficiently postharvest to get an accurate reading of soluble sugars. We do feel the harvest otherwise reflects the potential for these varieties since the fruit had sized sufficiently.

Table 1. Watermelon Variety Trial, 2004.

Vidalia Onion and Vegetable Research Center, Lyons, GA

Entry	Company	Description	Yield (lbs/acre)	Size Class (lbs)			
				≤10	>10-≤20	>20-≤30	>30
				(%)			
Olé	Willhite	Diploid	54,987	6%	72%	21%	1%
Wrigley	Seminis		53,822	14%	78%	8%	0%
Sweet Slice	Willhite	Triploid	53,150	18%	81%	1%	0%
#7167	Abbott & Cobb	Super Seedless™ Triploid	46,569	14%	85%	1%	0%
Jamboree	Rogers	Hybrid	46,076	3%	70%	25%	1%
		Triploid, round, avg 5-7 kg, firm flesh, less prone to hollow heart					
WS Red Seedless MF	Wannamaker		44,573	52%	48%	0%	0%
Top Gun	Rogers	Hybrid	43,749	2%	62%	35%	2%
WX207	Willhite	Diploid	41,313	2%	72%	26%	0%
WX270	Willhite	Triploid (wilt resistant)	40,141	27%	72%	1%	0%
WX257	Willhite	Diploid	39,995	9%	81%	9%	0%
#800 (ACX 5413)	Abbott & Cobb	Summer Flavor® Hybrid	38,964	3%	77%	20%	0%
RWT 8145	Rogers	Hyb 3N	37,066	8%	83%	10%	0%
		Triploid (Smaller Cooperstown type)					
PS 80309020	Seminis		36,863	30%	70%	0%	0%
WX255	Willhite	Diploid	36,768	3%	86%	11%	0%
WX266	Willhite	Diploid	36,739	6%	74%	19%	0%
#810 (ACX 5408)	Abbott & Cobb	Summer Flavor® Hybrid	36,278	4%	64%	32%	0%
		Triploid, yellow, high globe, 5-7 kg, high brix, good shipper					
WS Yel Seedless F	Wannamaker		35,000	23%	72%	3%	2%
Majestic (XP 4510759)	Seminis	Triploid	34,460	40%	59%	1%	0%
Mardi Gras	Rogers	Hybrid	34,191	16%	78%	6%	0%
Tri-X 313	Rogers	Hyb 3N	33,665	10%	90%	0%	0%
#5244	Abbott & Cobb	Summer Sweet® Triploid	31,211	21%	77%	1%	0%

Tri-X Palomar	Rogers	Hyb 3N	29,791	27%	73%	0%	0%
RWT 8149	Rogers	Hyb 3N	29,516	100%	0%	0%	0%
		Triploid, yellow, globe shape, 4 kg, crisp bright					
WS Yel Seedless OS	Wannamaker	yellow flesh	28,303	57%	43%	0%	0%
WS Crimson 166	Wannamaker	Seedless	27,127	54%	46%	0%	0%
Sweet Delight	Rogers	Hyb 3N Primed	26,430	25%	74%	2%	0%
RWT 8154	Rogers	Hyb 3N	26,049	100%	0%	0%	0%
WS Crimson 144	Wannamaker	Seedless	25,258	28%	72%	0%	0%
RWT 8162	Rogers	Hyb 3N	24,619	100%	0%	0%	0%
WX28	Willhite	Triploid (late)	24,379	12%	62%	26%	0%
Cha Cha Cha F1	Shamrock Seed Co.	Seedless	23,758	44%	56%	0%	0%
RWT 8155	Rogers	Hyb 3N	23,733	100%	0%	0%	0%
		F1 hybrid orange flesh					
WS Orange Palm NQ	Wannamaker	palm, 2.5 kg	17,243	100%	0%	0%	0%
Precious Petite	Rogers	Hyb 3N	15,471	99%	1%	0%	0%
		F1 hybrid, yellow palm avg 2-3 kg, heat tolerant and					
WS Yel Palm PY	Wannamaker	resistant to cracking	11,681	100%	0%	0%	0%
WS Crimson Palm	Wannamaker	Red, seeded palm, avg 2 kg	9,202	98%	2%	0%	0%
			CV	43%			
			Fisher's Protected LSD (p≤0.05)	20,099			

**Table 2. Watermelon fruit characteristics.
Vidalia Onion and Vegetable Research Center, Lyons, GA**

Entry	Color	Length (in.)	Width (in.)	Rind Depth (in.)	Sugar Content (%)	Comments
Olé	3.0	13.6	8.4	0.9	10.8	Allsweet
Wrigley	3.0	10.6	7.8	0.9	11.4	Blocky CS, Seedless
Sweet Slice	4.0	10.7	8.6	1.1	11.3	Blocky, Seedless, CS, Yellow
#7167	3.4	11.0	8.3	1.2	11.1	Seedless, Blocky CS
Jamboree	3.0	15.1	7.8	1.0	9.8	Allsweet
WS Red Seedless MF	2.6	8.9	8.1	1.0	11.3	CS, Dark, Seedless, Small
Top Gun	2.4	11.2	9.3	0.8	10.7	CS, Small, blocky
WX207	2.7	17.6	7.8	0.9	10.7	J, Small
WX270	3.8	11.6	7.7	0.9	10.9	CS, Red, Blocky, Allsweet, CS
WX257	2.1	13.8	6.5	0.9	11.1	Allsweet, Jubilee, Seedless, Small CS
#800 (ACX 5413)	3.8	14.8	8.0	1.1	10.0	Allsweet J small, Seedless, Blocky, CS,
RWT 8145	2.9	12.4	7.7	1.0	11.1	Variable
PS 80309020	4.0	10.9	8.0	1.2	11.3	Blocky CS, Seedless
WX255	2.6	13.2	7.7	0.9	9.9	Allsweet
WX266	3.3	16.3	7.4	0.9	10.1	Allsweet
#810 (ACX 5408)	4.0	14.4	8.1	1.1	9.6	Allsweet
WS Yel Seedless F	2.0	10.0	8.8	0.9	11.5	CS, Yellow, Seedless
Majestic (XP 4510759)	3.5	11.1	8.1	1.1	11.0	Blocky CS, Seedless
Mardi Gras	3.4	13.2	7.5	1.0	9.8	Allsweet
Tri-X 313	3.8	10.7	7.8	1.0	11.2	Blocky, CS, Red, Seedless
#5244	3.1	10.9	8.0	1.1	10.9	Seedless, Blocky CS

Tri-X Palomar	3.4	9.9	8.6	1.0	11.1	CS, Dark Stripe, Red, Seedless
RWT 8149	1.4	7.6	6.7	0.5	11.4	Dark, Palm, Sugar Baby, Seedless, Red
WS Yel Seedless OS	2.1	9.4	8.0	0.9	11.4	CS, Small, Yellow, Seedless
WS Crimson 166	2.4	8.8	7.9	0.8	11.3	CS Small, Seedless, not all, Palm, Dark
Sweet Delight	3.6	11.0	8.3	0.9	11.5	Seedless, Pink, Blocky CS
RWT 8154	2.9	7.4	6.3	0.5	11.5	Palm, seedless, red
WS Crimson 144	3.2	9.0	8.5	0.9	10.5	CS Small Seedless
RWT 8162	3.0	6.9	6.2	0.5	11.5	Palm, Red, Yellow rind, Seedless
WX28	4.4	14.4	7.4	1.1	9.6	Small Jubilee, Seedless, Not all
Cha Cha Cha F1	3.4	10.3	8.1	1.3	11.0	Blocky CS Seedless
RWT 8155	1.5	7.3	6.2	0.5	12.0	Palm, seedless, red
WS Orange Palm NQ	1.8	8.6	6.1	0.4	10.9	Palm, Yellow, Seeded
Precious Petite	2.4	7.3	6.7	0.5	11.1	Palm, red, seedless
WS Yel Palm PY	1.8	7.5	6.4	0.5	10.2	Yellow, Palm, Seeded, Breaks easily
WS Crimson Palm	3.1	6.9	6.0	0.4	10.5	Palm, Seeded, Breaks easily
			CV	9%		
			Fisher's Protected LSD ($p \leq 0.05$)	1.4		

Table 3. Cantaloupe Variety Trial, 2004.
Vidalia Onion and Vegetable Research Center, Lyons, GA

Entry	Company	Description	No. of Fruit/acre	Yield/acre (lbs)	Length (in.)	Width (in.)	Flesh Depth (in.)
Athena	Rogers	Hybrid	7,623	38,557	7.6	6.1	1.9
Aphrodite	Rogers	Hybrid	5,748	37,437	8.0	6.8	1.7
WS-SP04	Wannamaker	small specialty melon, 0.5-0.75 kg, 'Sprite-type', high sugar	7,442	27,491	6.0	5.8	1.8
PX 1461-1013	Seminis	Hybrid	6,050	31,109	7.5	6.3	2.3
Jaipur (BS 4309397)	Seminis	Hybrid	7,260	38,932	7.8	6.2	1.9
Moneyloupe (ACX 3908)	Abbott & Cobb	Hybrid	4,538	27,316	8.3	6.5	2.1
ACX 4757	Abbott & Cobb	Hybrid 72 Maturity Fruit Shape Oval	6,050	37,577	8.5	6.4	2.0
			CV	22%	27%		
			Fisher's Protected LSD ($p \leq 0.05$)	NS	NS		