

Specialty Melon Variety Evaluations

John Strang, Katie Bale, John Snyder, Daniel Carpenter and Chris Smigell
Department of Horticulture, University of Kentucky, Lexington, KY 40546

Thirty-one specialty melon varieties were evaluated in a replicated trial for their performance under Kentucky conditions. These included ananas, Asian, canary, gourmet, hami, honeydew, hybrid, Eastern muskmelon, muskmelon galia crosses, and specialty-type melons.

Materials and Methods

Varieties were seeded on April 26 into Styrofoam plug trays (72 cells per tray) at the Horticulture Research Farm in Lexington. Plug trays were set on a greenhouse bench to germinate seeds and seedlings were subsequently thinned to one per cell. Plants were set into black plastic-mulched, raised beds using a waterwheel setter on May 24. Each plot was 21 feet long, with seven plants set 3 feet apart within the row. Rows were spaced 6 feet apart. Each treatment was replicated four times in a randomized complete block design.

Fifty lbs./A N as ammonium nitrate and 100 lbs./A K as 0-0-60 were applied to the soil and incorporated into the field prior to bed shaping and planting. Drip irrigation was used to provide water and fertilizer as needed. The plot was fertigated with a total of 27 lbs./A N as ammonium nitrate divided into four applications over the season. Twelve and a half pounds of Epsom salts were applied through the irrigation lines. The systemic insecticide Admire 2F was applied with a hand sprayer as a drench to the base of each plant after transplanting; using the maximum rate of 24 fl. oz./A. Foliar insecticide applications included Pounce and Capture. Weekly foliar fungicide applications included fixed copper, Quadris, Bravo, Cabrio, Abound, and Nova. Curbit and Sandea pre-emergent herbicides were applied and incorporated between the rows, just as the vines began to grow off the plastic mulch. One fruit from each replication was measured and evaluated for flavor, soluble solids, interior color, rind color, and net type.

Results

A hailstorm on June 5 killed some plants and damaged many others. Dead and severely damaged plants were replaced. The growing season was hot and very dry, making it an excellent one for melon quality. During most of the season vine cover was thick with no plant death. No virus was observed. By the end of the season powdery mildew became established on some of the more susceptible varieties. Fruit were generally harvested twice a week. Harvest and evaluation data are in Tables 1 and 2. Most melon varieties evaluated previously performed well again. Varieties are grouped by melon type and listed in order of declining yield within the grouping.

Honeydew

NUN 7225, Honey Brew, Nun 7227, and Temptation #1 were all excellent honeydews. Unfortunately, the NUN varieties are not on the market. Surface checking and cracking, which are problems in wet seasons, were minimal this year. Honey Brew, which has done well in previous trials, and NUN 7227 were rated as having the best flavor. Temptation #1 also had a nice flavor and had orange flesh. Bartlett is a very attractive, bright yellow honeydew. The flesh is slightly crisp and very good. Honey Yellow, a smaller melon, had the highest sugar content of the honeydew melons and excellent flavor. Its dark yellow rind was very attractive. It had some

cracking problems following a rain and will need to be tested further. Several varieties developed small rusty spots on the surface, which we have not encountered before.

Canary

Sugar Nut is a small melon and Golden Beauty is a large one. Both again performed exceptionally well, producing high yields of high-quality, attractive melons with few or no culls.

Muskmelon Galia Crosses

The three melons of this type had very attractive, excellent tasting, very firm, orange flesh. Sweetie and Pixie had the best flavor and sugar contents. Sweetie was the larger of the melons and Pixie the smallest. Harvest maturity in this melon type is assessed by looking for yellow highlights on the rind.

Asian

Sprite is an outstanding Asian melon and has been consistent in our trials over the years. It is a small, cream-colored melon with crisp flesh that has a strong consumer following. Jade Delight yielded well, but was somewhat difficult to determine harvest maturity on.

Specialty Melon

These melons do not seem to fit into any of the melon classes. Sunrise and Napoli resemble small, tightly netted cantaloupes on the exterior, but they do not have the musky flavor of cantaloupes, and Napoli has creamy green flesh. Melon flavor and flesh texture are excellent. The fruit of both varieties are very uniform in size and have a relatively long harvest period. These varieties have the potential to be developed into a specialty niche market.

Eastern Muskmelon

Wrangler and Athena were the top Eastern muskmelons in this trial. Athena is the industry standard. Wrangler is a small Tuscan muskmelon and very distinctive in that it has very attractive green sutures that make it stand out. Wrangler was superior to Athena in flavor and sugar content.

Ananas

Abu was the only ananas melon in the trial and a good one. Unlike other melons of this type, Abu has orange, instead of cream colored, flesh. Ananas melons should be harvested daily, because of their rapid ripening, short harvest window, and short storage life. A number of these melons were not harvested due to over maturity because our twice-weekly harvest was not frequent enough for these varieties.

Hami

These melons are very popular in China and have a crisp flesh similar to watermelons. New Century is a very high quality hami melon. The window was narrow for determining the optimum maturity to obtain the highest sugar content. Consequently, a number of melons split and decayed with our twice a week harvest and yield was reduced.

Gourmet

Sensation is an outstanding melon in its appearance, flavor, and sugar content. It has performed exceptionally well in previous years. The high temperatures of this season accelerated ripening

and our twice weekly harvest left many over mature melons in the field, substantially reducing yield.

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Table 1. Specialty melon variety trial yields and fruit characteristics, Lexington, Ky., 2007.

Variety	Melon Type ¹	Seed Source	Days to Harvest	Yield (cwt/A) ²		Avg. No. Melons/A	Avg. Wt./Fruit (lbs.)	Culls (%)	Outside Measurements		Flesh Thickness (in.)	Seed Cavity	
									Length (in.)	Width (in.)		Length (in.)	Width (in.)
Destacado	HD	SM	85-90	1,082	a	14,866	7.3	1	7.9	7.5	2.3	4.5	3.1
NUN 7225	HD	NU	85	887	ab	14,434	6.2	0	7.9	6.9	2.0	4.8	2.9
Bartlett	HD	BU	88	839	bcd	10,804	7.8	1	9.1	8.4	2.0	6.1	4.6
Honey Brew	HD	RU	90	826	bcd	11,149	7.4	1	8.8	7.1	1.8	5.6	3.4
NUN 7227	HD	NU	80	795	bcde	13,396	6.0	1	7.4	7.1	2.2	4.4	2.8
HMX4593	HD	HM	85-90	735	bcdef	11,841	6.3	1	7.8	7.0	1.8	4.7	3.2
Temptation #1	HD	SK	85-90	733	bcdef	11,409	6.4	2	8.5	7.4	2.1	5.4	3.1
Salmon Dew	HD	RU	80	732	bcdef	11,581	6.3	4	7.9	7.3	2.1	4.9	3.2
Honey Star	HD	NU	90	725	bcdefg	11,409	6.4	0	9.1	7.7	1.6	6.3	4.5
Honey Yellow	HD	JS	71	551	fghij	17,545	3.2	11	6.5	5.9	1.6	4.0	2.5
Honey Orange	HD	JS	85	499	hij	10,631	4.7	3	7.7	6.6	1.6	5.1	3.3
Golden Beauty	CA	JS	80	764	bcde	12,186	6.3	2	9.0	6.6	1.5	6.2	3.3
Golden Lady	CA	KU	79	734	bcdef	25,496	2.9	1	6.5	5.2	1.4	4.1	2.6
Sugar Nut	CA	JS	77	724	bcdefg	24,459	3.0	1	6.2	5.1	1.6	3.5	1.9
Sweetie	MG	KU	85	730	bcdef	16,594	4.4	2	7.1	6.2	1.8	4.2	2.6
HSR 4290	MG	HL	80-85	655	defghi	19,360	3.4	0	6.5	6.0	1.7	4.3	2.7
Pixie	MG	HL	80	479	ij	16,076	3.0	3	5.7	5.5	1.6	3.4	2.1
Jade Delight	AS	NU	80	868	bc	12,791	6.8	0	7.7	6.9	2.0	4.8	2.9
Sprite	AS	CF	90	661	defghi	51,511	1.3	1	4.9	4.0	1.0	3.3	2.2
Sun	AS	KU	80	553	fghij	14,261	3.9	15	7.7	6.4	1.7	5.4	3.3
Jade Lady	AS	KU	75	550	fghij	12,791	4.4	6	7.3	6.6	1.7	4.6	3.1
Jade Flower	AS	KU	80	543	fghij	13,137	4.2	4	7.8	6.4	1.6	5.1	3.2

¹Melon type: AN = ananas, AS = Asian melon, CA = canary, GO = gourmet, HA = hami, HD = honeydew, MG = muskmelon galia cross, MM = eastern muskmelon, SP = specialty type.

²Numbers followed by the same letter are not significantly different (Waller-Duncan LSD P = 0.05). Cwt/A = hundredweights (100-lb. units) per acre.

³Cull percent by weight.

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Table 1 (continued)

Variety	Melon Type ¹	Seed Source	Days to Harvest	Yield (cwt/A) ²		Avg. No. Melons/A	Avg. Wt./Fruit (lbs.)	Culls (%)	Outside Measurements		Flesh Thickness (in.)	Seed Cavity	
									Length (in.)	Width (in.)		Length (in.)	Width (in.)
Golden Prize	AS	KU	85	532	ghij	11,409	4.7	6	8.7	6.3	1.6	7.0	3.2
Sunrise	SP	EV	72	681	cdefgh	20,656	3.3	2	5.4	5.3	1.6	3.3	2.3
Napoli	SP	EV	72	626	efghi	19,101	3.3	2	5.6	5.4	1.7	3.4	2.0
Athena	MM	SW	79	621	efghi	11,236	5.5	4	7.5	6.6	1.8	4.8	3.0
Wrangler	MM	HL	85	609	efghi	16,594	3.7	6	7.0	5.6	1.7	4.6	2.3
Strike	MM	HL	80-85	562	fghij	10,458	5.4	12	8.3	6.6	2.1	5.4	2.5
Abu	AN	NS	90-95	678	cdefgh	11,581	5.8	2	8.6	6.6	1.9	5.4	2.9
New Century	HA	KU	85	511	hij	8,297	6.1	5	10.1	6.8	1.9	7.2	3.0
Sensation	GO	HL/RU	80	405	j	8,297	4.9	14	7.0	6.4	1.6	4.1	3.2

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²Numbers followed by the same letter are not significantly different (Waller-Duncan LSD P = 0.05). Cwt/A = hundredweights (100-lb. units) per acre.

³Cull percent by weight.

Table 2. Specialty melon trial fruit characteristics, Lexington, Ky., 2007.

Variety	Flavor (1-5) ¹	Sugar (%)	Interior Color ²	Rind Color ³	Fruit Shape	Net Type ⁴	Comments
Destacado	4.4	14.6	lt. gr.	lt cr. gr.	round	na	Soft, slightly grainy flesh; little or no surface checking; develops small rusty spots on rind; harvest when rind turns a cream color
NUN 7225	4.4	15.9	lt. gr.	cr.	oval	na	Firm flesh; excellent flavor; very few surface blemishes; doesn't slip; harvest when rind is cream colored and waxy
Bartlett	4.1	15.2	lt. gr.	by.	oblong	na	Slightly crunchy flesh; attractive; doesn't slip; harvest when dark yellow
Honey Brew	4.6	15.1	cr. gr.	cr. gr.	oblong	na	Slightly crisp flesh; excellent flavor; harvest when rind is waxy
NUN 7227	4.6	16.3	lt. gr.	cr.	round	na	Crunchy flesh; nice flavor; doesn't slip; harvest when rind is waxy and a dark cream color
HMX 4593	3.9	14.8	lt. gr.	cr.	oval	na	Firm flesh; rind develops small rusty spots; doesn't slip; harvest when rind is cream colored and waxy
Temptation #1	4.3	15.0	or.	cr.	almond	diffuse	Firm flesh; nice delicate flavor; uniform shape and size; some exterior checking; doesn't slip; harvest when rind becomes cream colored and waxy
Salmon Dew	3.9	12.9	or.	cr.	round	na	Medium firm flesh; rind checking; doesn't slip; harvest at solid cream color; powdery mildew susceptible
Honey Star	4.1	14.8	lt. gr.	beige	round	md	Firm, crisp flesh; surface checking; rind uneven with spots; cracks at maturity; harvest when rind is waxy
Honey Yellow	4.5	16.6	or.	dk. yl.	round	na	Firm, fine grained flesh; harvest when dark yellow; some cracked after rain
Honey Orange	4.2	14.6	lt. or.	lt. gr.	oval	na	Very firm, smooth flesh; doesn't slip; harvest when rind and ground spot turn a cream color; powdery mildew susceptible
Golden Beauty	4.3	14.0	lt. gr.	by.	almond	na	Soft, smooth flesh; doesn't slip; harvest when dark yellow
Golden Lady	3.9	13.8	lt. gr.	by.	almond	na	Crunchy flesh; severe cracking following rain; harvest when dark yellow
Sugar Nut	4.6	15.2	lt. gr.	by.	oval	na	Smooth, crunchy flesh; very sweet; doesn't slip; harvest when dark yellow
Sweetie	4.8	15.9	or.	lt. bl. yl.	round to oval	md. co.	Smooth, firm, excellent tasting flesh; doesn't slip; harvest when rind develops yellow highlights; powdery mildew susceptible

¹Flavor: 1 = poor; 5 = excellent, sweet taste, pleasant texture.

²Interior color: o = orange; cr = cream; lg = light green; wh = white; cr = creamy; pk = pink.

³Rind color: lg = light green; gr = green; dg = dark green; yl = yellow; by = bright yellow; wh. = white; str = straw; tn = tan; or = orange; gd = gold; cr = cream.

⁴Net type: na = none; lt = light netting; md = medium netting; hv = heavy netting; fi = fine; co = coarse.

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Table 2 (continued)

Variety	Flavor (1-5) ¹	Sugar (%)	Interior Color ²	Rind Color ³	Fruit Shape	Net Type ⁴	Comments
HSR 4290	4.2	15.2	or.	lt. gr. cr.	round	md.	Firm, smooth flesh; doesn't slip; harvest when rind is light blue, and yellow highlights appear and the ground spot is yellowish
Pixie	4.5	16.1	or.	lt. gr. yl	round	hv. co.	Very firm, sweet flesh; doesn't slip; harvest when yellow highlights appear in rind
Jade Delight	3.7	13.8	cr.	cr. wh.	oval	na	Soft, smooth flesh; doesn't slip; harvest when soft; cream colored and waxy
Sprite	4.4	16.9	cr.	cr.	oval	na	Attractive crisp flesh; harvest when rind becomes slightly waxy, develops a yellowish tinge and minute concentric checks appear around blossom end
Sun	2.8	12.7	cr. gr.	lt. yl.	almond	na	Coarse textured flesh; cracks following rain; doesn't slip; harvest when uniform light yellow
Jade Lady	3.0	11.1	lt. gr.	cr. gr.	oval	na	Soft, coarse flesh; difficult to determine when to harvest
Jade Flower	2.5	14.8	cr.	cr.	oblong	na.	Soft, coarse textured flesh; rind develops rusty spots; difficult to determine when to harvest; powdery mildew susceptible
Golden Prize	3.3	14.4	cr.	by.	almond	na	Crunchy flesh; stem end cracking; doesn't slip; harvest when bright yellow
Sunrise	4.6	14.6	lt. or.	str.	round	hv. co.	Excellent flavor; soft melting flesh; harvest when rind turns yellows before slip
Napoli	4.6	16.0	cr. gr.	cr. gr.	round	hv. fi.	Excellent flavor; soft, smooth, melting flesh; harvest at first slip when rind color is creamy green
Athena	3.9	11.4	or.	str.	oval	md. fi.	Attractive, firm flesh; harvest at full slip; industry standard
Wrangler	4.4	12.6	or.	str.	oblong	hv. fi.	Excellent flavor; attractive dark green sutures; attractive interior; harvest at full slip
Strike	3.8	10.7	or.	str.	oval	co.	Medium firm flesh; harvest at full slip; not as attractive this season
Abu	4.1	12.0	lt. or.	str.	oblong	hv. md.	Firm flesh; ripens rapidly; harvest frequently; harvest at first slip
New Century	3.9	13.2	lt. or.	cr. gr.	long oval	diffuse lt.	Very crisp flesh like watermelon; ripens rapidly; harvest frequently when cream rind color develops; difficult to judge ripeness before cracking
Sensation	4.4	13.2	cr.	cr.	round	lt. co.	Soft, melting flesh; ripens rapidly; harvest frequently as rind yellows just before slip

¹Flavor: 1 = poor; 5 = excellent, sweet taste, pleasant texture.

²Interior color: o = orange; cr = cream; lg = light green; wh = white; cr = creamy; pk = pink.

³Rind color: lg = light green; gr = green; dg = dark green; yl = yellow; by = bright yellow; wh. = white; str = straw; tn = tan; or = orange; gd = gold; cr = cream.

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