

Specialty Melon Variety Evaluations

John Strang, Katie Bale, John Snyder, and Chris Smigell, University of Kentucky, Lexington, KY 40546

Forty specialty melon varieties were evaluated in a replicated trial for their performance under Kentucky conditions. These included ananas, Asian, canary, casaba, crenshaw, galia, gourmet, hybrid, honeydew, Hungarian, Eastern muskmelon, and Piel de Sapo melons.

Materials and Methods

Varieties were seeded on 25 April 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 and seedlings were subsequently thinned to one per cell. Plants were set into black plastic-mulched, raised beds using a waterwheel setter on 6 June. Each plot was 21 feet long, with 7 plants set 3 feet apart within the row and 6 feet between rows. Each treatment was replicated four times in a randomized complete block design. Drip irrigation was used to provide water and fertilizer as needed.

One hundred pounds of N/A as ammonium nitrate and 75 lb K/A as potassium chloride were applied and incorporated into the field prior to bed shaping and planting. The plot was fertigated with a total of 45 lbs N/A as ammonium nitrate divided into seven applications over the season. Epsom salts as a foliar spray was applied once. 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 Sevin and Pounce. Weekly foliar fungicide applications included Maneb, Bravo, Pristine, Quadris, and Nova. Curbit and Sandea, preemergent 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

The growing season was hot and rainfall was frequent; consequently, disease pressure was high. No virus was observed. During most of the season vine cover was thick, with no plant death. However, by the end of the season foliar diseases were serious problems for a number of varieties despite a weekly spray schedule. Thus, this was a challenging season to evaluate melons under adverse growing conditions. Fruit were generally harvested twice a week. Harvest and evaluation data for the replicated trial are in Tables 1 and 2. Most melon varieties evaluated previously performed well. Varieties are grouped by melon type and listed in order of declining yield within the grouping.

Replicated Trial

Honeydew. None of the honeydews were exceptional. Surface checking and cracking which are problems in wet seasons were a problem this year. Rocio performed well and was the highest yielding melon in the trial. It had very little fruit cracking and checking and tasted good. Honey Brew, which has done well in previous trials was rated as having the best flavor and had the highest sugar content. It has a problem with surface checking and foliage diseases in wet seasons.

Galia. Galileo was the top performing galia melon. It yielded very well and had very good flavor and fruit quality. Galia Max and Arava also were attractive and had very good eating characteristics. Gala Max is a very large melon and would be outstanding in a dry season.

Canary. Sugar Nut a small melon and Golden Beauty a large one, again performed exceptionally well,

producing high yields of high quality, attractive melons with few or no culls.

Muskmelon Galia crosses. All of the melons of this type had very attractive excellent tasting very firm orange flesh. Assessing harvest maturity based on subtle differences in rind color was a challenge between the four selections, because of variation among selections. Pixie, the one named variety, was attractive externally and was an excellent small melon. It was also one of the easier ones to assess for harvest maturity. HSR 4290 was rated as having the best flavor and produced very nice melons, although the vines did not hold up quite as well in the rain. HSR 4284 also looked very promising.

Crenshaw. Neither Crenshaw variety was acceptable this season. Bolero was the biggest disappointment. In the 2005 trial it was the top yielder and one of the better tasting melons. This year it had the lowest yield, because the vines collapsed due to disease and many of the melons did not ripen.

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 light green flesh. Melon flavor and flesh texture are excellent, in fact Napoli was rated the second best tasting melon in the trial. 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. Bartlett is very attractive and resembles bright, yellow honeydew. The flesh is slightly crisp and very good.

Eastern muskmelon. Wrangler, HSR 4280, and Athena were the top eastern muskmelons in this trial. Athena is the industry standard. Wrangler is very distinctive in that it has very attractive green sutures that make it stand out. Both Wrangler and HSR 4280 were superior to Athena in flavor and sugar content.

Ananas. Both Duke and Tamara were very similar in yield quality and appearance. Both were very nice ananas melons. San Juan was superior in flavor and sugar content to Duke and Tamara and had fewer days to maturity. It seemed to have a little more of a fruit cracking problem. Ananas melons should be harvested daily, because of their rapid ripening, short harvest window and short storage life.

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.

Casaba. Honey-I-Dew is an excellent bright yellow casaba melon and also did well in last years trials.

Piel de Sapo. Sancho is a very high quality, excellent tasting melon. Toward the end of the harvest season several of these melons cracked in the rain and were not harvested. It has performed well in past years.

Gourmet. Sensation is an outstanding melon in terms of appearance, flavor and sugar content and was rated as the best tasting melon in the trial. It has a relatively long harvest period for this type of melon.

Hungarian. Haogen is an heirloom melon. It is colorful and attractive, but has a slight green pepper flavor that only one individual on the farm crew liked.

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Table 1. Specialty melon variety trial yield and fruit characteristics, Lexington, Ky., 2006.

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.)	
Rocio	HD	SW	85	1050a	12,791	8.2	2	8.4	8.0	2.1	5.2	4.3	
Silverado	HD	SY/RG	86	784bcdef	9,161	8.6	0	8.3	8.2	2.1	5.2	4.0	
Honey Brew	HD	SI	90	753bcdef	8,873	8.5	7	9.2	7.7	2.0	5.6	3.6	
Super Dew	HD	BU	80	745bcdef	9,680	7.8	1	8.8	7.7	1.7	5.9	4.2	
Honey King	HD	SY/RG	95	701bcdefg	8,902	7.9	1	9.3	8.8	2.0	5.8	4.5	
Silver Express	HD	SY/RG	85	698bcdefgh	8,556	8.2	0	8.3	7.8	2.1	4.9	3.8	
Galileo	GA	SY/RG	86	870ab	20,224	4.3	1	6.0	6.1	1.7	3.2	2.6	
Galia Max	GA	HL	82	790bcde	9,248	8.3	3	8.4	7.2	2.2	5.5	2.9	
Arava	GA	JS	77	769bcdef	13,569	5.6	3	6.7	6.8	1.9	4.0	2.9	
Vicar	GA	SY/RG	86	641bcdefghi	16,940	3.8	2	5.6	5.8	1.8	3.0	2.1	
Courier	GA	HL	85	611cdefghi	12,014	5.1	1	7.2	6.4	1.9	4.3	2.7	
Diplomat	GA	HL	75	510ghi	8,816	5.9	11	7.3	6.7	2.2	4.7	2.7	
Sugar Nut	CA	JS	77	840abc	22,558	3.7	0	5.9	5.3	1.6	3.2	2.1	
Golden Beauty	CA	JS	80	767bcdef	9,766	7.9	1	10.3	7.3	1.9	6.9	3.5	
Juane des Canaries	CA	CF	80	596defghi	8,470	7.0	0	9.5	6.7	1.7	6.1	3.1	
HSR 4290	MG	HL	80-85	809bcd	17,804	4.5	1	6.4	6.3	1.8	3.8	2.6	
HSR 4284	MG	HL	80-85	661bcdefgh	14,088	4.7	9	7.8	6.5	1.8	4.9	2.9	
HSR 4289	MG	HL	80-85	645bcdefghi	17,977	3.6	1	5.8	5.7	1.7	3.5	2.2	
Pixie	MG	HL	80	553fghi	17,459	3.2	4	5.5	5.5	1.6	3.1	2.3	
Lilly	CR	JS	78	760bcdef	8,038	9.4	3	10.5	7.1	1.9	6.8	3.3	
Bolero	CR	SI	95-100	421ij	3,457	12.1	0	10.6	8.9	2.2	7.4	4.5	
Sunrise	SP	EV	72	732bcdefg	18,323	4.0	0	5.8	5.8	1.5	3.5	2.6	
Bartlett	SP	BU	88	701bcdefgh	7,721	9.4	0	8.5	8.0	2.0	5.3	4.2	
Napoli	SP	EV	72	654bcdefgh	20,138	3.3	1	5.4	5.4	1.7	3.1	2.2	
Orange Sorbet	SP	BU	82	620cdefghi	9,853	6.3	0	7.5	7.1	2.0	4.8	3.0	
HSR 4272	MM	HL	79	719bcdefgh	9,939	7.3	0	8.6	6.9	2.1	5.5	2.6	
Wrangler	MM	HL	80-85	701bcdefgh	14,866	4.7	5	7.1	5.8	1.8	4.7	2.5	
HSR 4280	MM	HL	75	662bcdefgh	10,371	6.4	2	7.4	6.6	1.9	4.3	2.9	
Athena	MM	SW	79	617cdefghi	8,766	6.3	1	8.0	6.7	1.9	5.2	3.0	
Carousel	MM	HL	85	595defghi	8,124	7.3	2	9.4	7.0	1.9	6.1	2.7	
Strike	MM	HL	80-85	590defghi	9,853	6.1	1	8.6	6.9	2.1	5.5	2.8	
Duke	AN	HL	88	661bcdefgh	11,236	5.9	0	8.5	6.5	1.8	5.5	3.1	
Tamara	AN	HL	95	639bcdefghi	9,766	6.6	1	8.6	7.2	2.0	5.5	3.5	
San Juan	AN	JS	78	569efghi	10,487	5.5	2	7.1	6.9	2.0	4.1	3.0	
Sprite	AS	CF	90	594defghi	44,424	1.3	1	4.8	4.1	1.0	3.2	2.0	
Sakata's Sweet	AS	SE	85-95	248j	22,904	1.1	6	3.8	4.1	0.8	2.6	2.5	
Honey I Dew	CS	GU	84	793bcde	10,717	7.3	1	9.1	6.8	2.0	6.0	3.1	
Sancho	PS	SY/RG	90	660bcdefgh	7,346	9.0	0	11.9	7.2	2.1	7.9	2.7	
Sensation	GO	HL	80	508ghi	8,297	6.2	2	7.1	7.1	1.8	4.0	3.4	
Haogen	HU	SV	73	483hi	13,137	3.7	1	6.0	5.8	1.6	3.6	2.6	

¹ Melon type: AN = ananas, AS = Asian melon, CA = canary, CR = crenshaw, CS = casaba, GA = galia, GO = gourmet, HD = honeydew, HU = Hungarian, MG = muskmelon galia cross, MM = Eastern muskmelon, PS = Piel de Sapo, SP = specialty type.

² Numbers 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., 2006

Variety	Flavor (1-5) ¹	Sugar (%)	Interior Color ²	Rind Color ³	Fruit Shape	Net Type ⁴	Comments
Rocio	4.0	13.4	cr. gr.	cr.	round	na	Flesh crunchy with a slightly grainy texture, little or no surface checking, harvest when rind turns slight beige color
Silverado	3.5	12.9	cr.gr.	cr.	round	na	Some surface checking, difficult to determine when ripe, some odd shaped fruit
Honey Brew	4.4	14.8	cr. gr.	cr. gr.	oblong	na	Slightly crisp, excellent flesh, surface checking in wet season, vines don't hold up in wet weather
Super Dew	3.6	13.5	lt gr.	cr. wh	slightly oblong	na	Coarse, crunch flesh, some surface blemishes, splits in rain, difficult to determine ripeness, vines killed by disease
Honey King	4.1	13.0	cr. gr.	cr.	oblong	na	Some surface checking, soft to crunchy flesh, harvest when tan color develops on top of melon. Cracks badly when over ripe, spotting on rind, vines did not hold up
Silver Express	4.1	12.9	cr. gr.	cr. gr.	round	na	Flesh crunchy, harvest when beige and waxy
Galileo	4.0	13.5	gr.	gr. yl.	round	hv	Harvest at ½ slip, firm flesh, easy to pick
Galia Max	3.9	14.8	gr.	str.	oblong	hv fi	Very large melon, firm flesh, some stem end and surface cracking in wet weather, attractive, vanilla after taste, harvest at ½ slip
Arava	4.0	11.4	gr.	gr. yl.	round	md	Slight vanilla after taste, soft flesh, harvest at first sign of yellow
Vicar	3.8	13.8	gr.	str.	round	hv	Firm, musky flesh
Courier	3.5	10.9	lt. gr.	str.	oblong	md	Harvest as rind turns straw color, slightly firm flesh, vines held up well
Diplomat	3.4	11.6	lt. gr.	str.	oblong	md	Soft texture, musky, cracking at stem end, harvest as rind turns straw color
Sugar Nut	4.2	13.5	lt gr.	by.	oblong	na	Cotton candy sweet, firm crunchy flesh, harvest when dark yellow, vines held up well
Golden Beauty	4.5	14.0	lt. gr.	by.	football	na	Soft smooth flesh, harvest when dark yellow
Juane des Canaries	3.2	12.8	lt. gr.	by.	football	na	Coarse, fibrous texture, harvest when bright yellow, vines highly susceptible to disease
HSR 4290	4.4	14.6	or.	gr. cr.	round	md-hv	Firm flesh, good aroma, harvest when yellow highlights appear in rind and ground spot is yellowish, vines did not hold up late in season
HSR 4284	4.3	12.3	or.	cr. gr.	oblong	hv.	Very firm flesh, harvest when skin creamy green, some off types
HSR 4289	4.3	16.0	or.	gr. yl.	round	varies	Slightly spicy, firm flesh, cracks in rain, harvest when yellow highlights appear in rind
Pixie	4.2	14.9	or.	gr. yl.	round	hv. co.	Very firm flesh, harvest when rind turns yellow with a green cast, some off types
Lilly	3.1	11.4	salmon	cr.	oblong	na	Coarse flesh, squash taste when under ripe, foliage did not hold up to disease, many fruit decayed in field
Bolero	3.9	12.8	lt. or.	dg. wh flecks	oblong	na	Some surface checking and sunburn, harvest when ground spot is yellow, soft flesh, serious leaf loss to disease
Sunrise	4.5	14.8	or.	str.	round	hv. co.	Attractive, excellent taste, soft flesh, harvest at first sign of yellow
Bartlett	4.0	14.8	lt. gr.	by.	round	na	Very attractive exterior and interior, slightly crunchy flesh, harvest when bright yellow
Napoli	4.8	16.0	cr. gr.	cr. gr.	round	hv. fi.	Excellent flavor, soft smooth flesh, does well in wet year, harvest at first slip
Orange Sorbet	3.9	13.9	or.	cr.	round	na	Firm crunchy flesh, lots of surface checking

Variety	Flavor (1-5) ¹	Sugar (%)	Interior Color ²	Rind Color ³	Fruit Shape	Net Type ⁴	Comments
HSR 4272	3.6	12.0	or.	str.	oblong	hv. co.	Medium, firm flesh, harvest at ½ slip, checks badly in rain
Wrangler	4.6	13.3	or.	str.	oblong	hv. fi.	Attractive dark green sutures, attractive interior, harvest at full slip, some off types
HSR 4280	4.2	12.0	or.	str.	oblong	hv.	Very thick flesh, small cavity, harvest at full slip, melons crack in wet weather
Athena	3.8	11.7	or.	str.	oblong	hv	Attractive firm flesh, harvest at full slip, industry standard
Carousel	3.5	11.1	or.	str.	oblong	md.	Firm melting flesh, attractive dark green sutures, harvest at ½ slip
Strike	3.2	11.0	or.	str.	oblong	hv. co.	Medium firm flesh, harvest at full slip
Duke	4.1	11.9	cr.	yl. or.	oblong	md	Soft melting flesh, attractive exterior, cracks at stem if overripe, short harvest window
Tamara	4.1	11.5	cr.	str.	oblong	md	Soft melting flesh, short harvest window, harvest at full slip
San Juan	4.3	12.5	cr. pk.	str.	round	md.	Soft melting flesh, cracks at stem end when overripe, harvest at full slip
Sprite	4.4	16.8	cr.	cr.	oval	na.	Attractive, crisp flesh, harvest when rind gets yellowish tinge
Sakata's Sweet	3.3	16.0	cr. gr.	lg. yl.	pumpkin shape	na	Granular, soft textured flesh, tender skin, harvest at slight yellow skin color, attractive to mice
Honey I Dew	4.4	13.7	lt. cr. gr.	by.	football	na	Non slip, harvest when bright yellow
Sancho	4.7	12.7	dk. gr.	lt. gr. or	football	na	Slightly crunchy flesh, harvest when ground spot is dark yellow, some longitudinal checking when ripe
Sensation	4.9	14.5	cr.	cr.	round	lt. co.	Excellent flavor, soft melting flesh, vines have good disease resistance, harvest at slip
Haogen	3.0	11.7	gr.	mottled yl. gr.	round	na.	Soft flesh, slight green, pepper flavor, harvest at light yellow color, does not 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; str = straw; or = orange; gd = gold; cr = cream.

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