

Specialty Melon Variety Observation Trial

John Strang, April Satanek, John Snyder, and Chris Smigell
Department of Horticulture, University of Kentucky
Lexington, Kentucky 40546

Introduction

This trial was designed to screen 18 specialty melon varieties under Kentucky growing conditions. Asian, galia, muskmelon, canary, gourmet, and heirloom melons were evaluated in this trial.

Materials and Methods

All varieties were seeded on 26 April into cell packs (72 cells per tray) at the Horticulture Research Farm in Lexington. Cell packs were set on a mist bench with bottom heat until seeds germinated, then moved to a drier, cooler bench in the greenhouse, where the seedlings were thinned to one per cell. Plants were set into black plastic-mulched, raised beds using a waterwheel setter on 24 May. A single plot of each variety was planted. Each was 36 feet long, with 12 plants set 3 feet apart within the row and 6 feet between rows. Drip irrigation provided water and fertilizer as needed.

Seventy lbs N/A as ammonium nitrate and 42 lbs K as potassium chloride were applied and incorporated into the field prior to bed shaping and planting. The plot was fertigated with a total of 57 lbs N/A as ammonium nitrate divided into six applications. The systemic insecticide Platinum 2 SC was applied with a hand sprayer as a drench to the base of each plant after planting, using the maximum rate of 8 fl oz/A. Foliar insecticide applications during the season included Sevin, Pounce, and Asana. Weekly foliar fungicide applications included applications of Bravo, fixed copper, Cabrio, and Quadris. Curbit preemergent herbicide was applied and incorporated between the rows, just as the vines began to grow off the plastic mulch. Glyphosate was used to control weeds along the plastic edge early in the season. Two average sized fruit of each variety were measured and evaluated for flavor, soluble solids, interior color, and rind color as each variety reached maturity.

Results and Discussion

The growing season was cool, with many rainy periods, providing intense disease pressure. Early in the season some plants showed slight glyphosate damage, most likely due to dripping following wick application along the plastic mulch edges, but the vines grew out of the symptoms. Very little virus was observed. Vine cover was thick, with little plant death. Fruit were generally harvested twice a week. Despite the rain, melon sugar contents were high, probably due to the cool weather. Variety evaluation results can be found in Tables 1 and 2.

Asian Melons. Sunrise, Napoli, and Golden Liner were the best Asian melons. Napoli and Sunrise both looked like small, heavily netted muskmelons. Neither tasted like a muskmelon and both had outstanding eating quality. The flesh of Napoli was a cream to light green, while Sunrise had an orange flesh. Both melons should be harvested at first slip and ripened slowly, providing a fairly long harvest window. Golden Liner was judged to have the best quality of the

elongated yellow, thin, crisp-fleshed Asian melons (others being Korean Star, Golden King, and Golden Sweet). Many of these had high sugar contents, but did not taste that sweet. Jade King had a squat rounded shape and a distinct taste. Hami Sweet was a large melon that yielded well and tasted good, but the coarse textured flesh reduced its desirability.

Galia Melons. HSR 4278 was judged to be the best galia melon of the four evaluated, because of its flavor and yield. Galia melons must be harvested as soon as the rind starts to turn yellow. Otherwise, the melons rapidly become overripe and unmarketable. Galia melons do not have a long shelf life.

Muskmelons. HSR 4121 was the best of the three traditional varieties evaluated in terms of eating quality, while HSR 4227 yielded a little better. Both of these muskmelons needed to be harvested at first slip, because eating quality severely deteriorated by full slip. Jenny Lind, an heirloom muskmelon with direct market potential, has a round shape, course heavy netting and excellent quality. All of these varieties had very low cull numbers.

Canary. Dorado was the one canary melon evaluated in this trial, used as a standard. Dorado performed exceptionally well, as expected, yielding many quality melons with no culls. This variety was very attractive.

Gourmet. Sensation was an exceptional melon. It had an excellent flavor, looked good, yielded well, and had a slightly firmer flesh than the ananas melons. Sensation should be harvested when it just begins turning yellow. It is worthy of further trials.

Acknowledgments

The authors would like to thank the following for their hard work and assistance in the successful completion of this trial: Todor Angelov, Daniel Bastin, Larry Blandford, Eric Bowman, David Bundrick, Jinsong Chen, Annie Coleman, Monica Combs, Martin Crowley, Chris Fuehr, Curtis Gregory, Courtney Hart, Chelsea Kear, Kevin King, Yanin Laisupanwong (Nan), Dave Lowry, Anurak Pokpingmuang (Net), Scott Pfeiffer, Kevin Taylor, Bonka Vaneva, Wei Wen, and Alicia Wingate.

Table 1. Specialty melon fruit characteristics from single plots, Lexington, Kentucky, 2004.

Variety	Melon Type ¹	Seed Source	Days to Harvest	Yield (cwt./A) ²	Avg. No. Melons/A	Exterior Fruit				Seed Cavity		
						Avg. Wt./Fruit (lbs.)	Culls (%)	Length (in.)	Width (in.)	Flesh Thickness (in.)	Length (in.)	Width (in.)
Sunrise	AS	EG	72	731	22897	3.2	1	6.0	5.7	1.6	3.9	2.7
Hami Sweet	AS	EG	85	723	13589	5.3	0	9.3	6.8	1.7	6.5	2.8
Korean Star	AS	EG	60	470	26992	1.7	7	6.4	3.8	0.9	4.7	2.5
Napoli	AS	EG	72	455	18615	2.4	2	4.5	4.5	1.4	2.6	2.1
Golden King	AS	EG	60	371	27364	1.4	9	6.5	3.6	0.8	5.0	2.0
Golden Liner	AS	EG	65	359	22525	1.6	17	6.8	3.7	0.9	5.3	2.0
Golden Sweet	AS	EG	40	293	27923	1.1	6	5.4	3.9	0.8	4.0	2.9
Jade King	AS	EG	70	227	21594	1.0	13	3.9	4.2	0.8	2.7	2.7
HSR 4090	GA	HL	75	722	9680	7.5	0	9.6	7.6	2.3	6.2	3.0
HSR 4278	GA	HL	75	647	13403	4.8	5	7.4	6.4	2.0	4.1	2.4
Passport	GA	HL	75	604	9494	6.4	7	6.9	7.0	2.1	3.7	3.0
HSR 4261	GA	HL	80	190	6702	2.8	0	5.2	5.3	1.6	3.1	2.1
HSR 4227	MM	HL	88	749	10052	7.5	4	8.1	6.4	1.9	5.3	2.6
HSR 4121	MM	HL	81	620	15078	4.1	0	6.5	6.2	1.6	4.1	2.9
Jenny Lind	MM	PT	70	515	24386	2.1	2	6.4	5.6	1.4	4.2	2.9
HSR 4222	MM	HL	88	203	4095	5.0	0	8.1	6.0	1.8	5.0	2.5
Dorado	CA	HR	85	554	9308	6.0	0	9.0	6.7	2.0	5.9	2.8
Sensation	GO	HL	80	529	9866	5.4	2	6.7	6.4	1.7	3.7	2.9

¹Melon type: AS = Asian melon, GA = galia, MM = muskmelon, CA = canary, GO = gourmet

²cwt/A = hundred weight per acre

Table 2. Specialty melon fruit and vine characteristics from single plots, Lexington, Kentucky, 2004.

Variety	Flavor ¹ (1-5)	Sugar (%)	Interior Color ²	Rind Color ³	Fruit Shape	Cracking ⁴ (1-4)	Net Type ⁵	Comments
Sunrise	4.8	12.5	or	cr	round	1.0	hv	Excellent flavor, ripens slowly, harvest at first slip.
Hami Sweet	4.2	12.9	lt or	cr/gr	oblong	1.3	lt	Very crisp, coarse, watermelon-like flesh texture, harvest when fruit rind begins developing a cream color.
Korean Star	2.8	12.8	wh	gd w/ sutures	oblong	1.3	none	Attractive, uniform fruit, harvest when golden yellow.
Napoli	5.0	14.8	cr/lt gr	cr	round	1.0	hv	Excellent flavor, ripens slowly, harvest before full slip.
Golden King	3.0	12.1	wh	gd	oval	1.0	none	Crisp flesh, harvest when golden yellow.
Golden Liner	3.5	14.5	wh	gd w/ sutures	oblong	1.0	none	Good taste, crisp flesh, harvest when golden yellow.
Golden Sweet	2.5	14.0	wh	gd	oval	1.5	none	Variable shape, harvest when golden yellow.
Jade King	3.5	13.5	lt gr	yl/gr	round	1.0	none	Distinct taste.
HSR 4090	3.0	12.3	lt gr	lt gr/cr	oval	1.0	med	Firm flesh, distinct taste, harvest when just turning yellow.
HSR 4278	4.5	13.9	wh/lt gr	yl/gr	oval	1.0	med	Harvest when just turning yellow.
Passport	2.8	10.7	cr/lt gr	yl/lt gr	oval	1.0	med	Harvest when just turning yellow.
HSR 4261	1.5	12.0	lt gr	cr/gr	round	1.0	lt	Small fruit, lush vine.
HSR 4227	3.6	11.5	or	cr w/ sutures	oval	1.0	hv	Attractive firm flesh, excellent flesh color, harvest at half slip.
HSR 4121	4.0	9.8	dk or	cr	round	1.0	med	Musky taste, harvest at half slip.
Jenny Lind	4.3	13.1	or/gr	cr	round	1.0	hv	Prolific, harvest at slip.
HSR 4222	2.5	12.0	or	cr	oval	1.0	med	Harvest at half slip.
Dorado	4.5	13.1	cr/lt gr	gd	almond	1.0	none	Harvest when golden yellow.
Sensation	4.5	11.8	wh	lt yl	round	1.0	med	Excellent taste, attractive, harvest when just turning yellow.

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

²Interior color: lt = light, gr = green, cr = cream, or = orange, dk = dark, wh = white

³Rind color: yl = yellow, gd = golden, gr = green, or = orange, cr = cream, lt = light, med = medium, dk = dark

⁴Cracking: 1 = little or no cracking, 4 = severe cracking and fruit splitting

⁵Net type: lt = light netting, med = medium netting, hv = heavy raised netting, none = no netting