

## **Specialty Melon Variety Observation Trial**

John Strang, April Satanek, Chris Smigell, Dave Lowry, and Phillip Bush  
Department of Horticulture, University of Kentucky, Lexington, KY

### **Introduction**

This trial was designed to screen 19 different specialty melon varieties under Kentucky growing conditions. Honeydew, galia, casaba, muskmelon, charentais and specialty hybrid melons were evaluated in this trial.

### **Materials and Methods**

All varieties were seeded on April 25 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 dryer, 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 May 29 and May 30. 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.

Fifty lbs N/A as ammonium nitrate were applied and incorporated into the field prior to bed shaping and planting. The plot was fertigated with a total of 60 lbs N/A as ammonium nitrate divided into eight applications. The systemic insecticide Admire 2F was applied as a drench to the base of each plant after planting, using the maximum rate of 24 fl oz/A. Foliar insecticide applications during the season included Sevin and Pounce. Fungicide applications included a pre-plant application of Ridomil Gold, and foliar applications of Bravo and Quadris. Curbit preemergent herbicide was applied and incorporated between the rows, just as the vines began to grow off the plastic mulch. Two average sized fruit of each variety were measured and evaluated for flavor, soluble solids, interior color, and rind color as each variety reached harvest maturity.

### **Results and Discussion**

Admire 2F helped to reduce the number of early cucumber beetles. The growing season was marked with rainy cool periods, followed by hot, dry periods. The dry weather helped to reduce plant and fruit disease severity, although diseases became more destructive mid-to late season. Very little virus was observed in the plot. Vine cover was thick, with little plant death. Fruit were generally harvested twice a week, more often at the beginning of the harvest period due to the rapid ripening of the galia melons. The weather proved beneficial to most melon varieties. Although the charentais melons did not split as rapidly or as severely as in last year's trial, a considerable amount of fruit was culled due to small cracks.

**Honeydews.** Honey Dew Green Flesh, Honey Pearl, and San Juan all looked good in this evaluation. All had excellent eating quality and low cull numbers. Honey Pearl had a cream colored flesh, while the other two varieties had light green flesh. Honey Dew Green Flesh melons were large, averaging 5.6 lb per fruit, while Honey Pearl and San Juan were smaller melons weighing 3.9 lb and 3.7 lb per fruit, respectively. Honey Pearl produced a second crop of quality melons.

**Galia Melons.** Arava and Sweet Dreams were the best galia melons. Both had excellent eating quality. Arava was judged to have a more attractive exterior and was slightly smaller than Sweet Dreams. It also had very low cull numbers. Galia melons must be harvested as soon as the rind starts to turn yellow, otherwise the melons rapidly become overripe and are unmarketable. After the initial melon set was harvested most varieties continued producing fruit, although the number harvested decreased.

**Charentais.** Four charentais melon varieties were evaluated. None of these performed well in this trial. It is difficult to visually determine the correct harvest time for charentais melons. Suggested harvest maturity criteria include the yellowing and wilting of the leaf nearest the fruit stem, a change in the rind color from green to grey, and softening of the blossom scar. None of these maturity cues aided in proper harvest timing for this trial. The fruit were mostly either immature or split and decayed when following these criteria.

**Miscellaneous Melon Types.** Marygold, a casaba melon, performed very well. It had excellent eating quality and very low numbers of culls. Vanilla Ice, a specialty hybrid melon, was found to have excellent flavor when it was evaluated at the first harvest, but the flavor varied in subsequent harvests. Vanilla Ice melons were not very attractive and had a very short shelf life. HSR 4122, a netted western type cantaloupe produced well, but was not of outstanding quality.

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**Table 1. Specialty melon fruit characteristics from single plots, Lexington, KY., 2002.**

Variety	Melon Type <sup>1</sup>	Seed Source	Days		Yield <sup>2</sup> (cwt./A)	Avg.		Exterior Fruit		Flesh	Seed Cavity		
			to	Harvest		Avg. No. Melons/A	Wt./Fruit (lbs.)	Culls (%)	Length (in.)	Width (in.)	Thick. (in.)	Length (in.)	Width (in.)
Honey Dew Green Flesh	HD	RU	90		797.1	14300	5.6	0	8.9	7.3	1.6	5.8	3.9
HSR 4156	HD	HL	90-95		765.8	13700	5.6	0	7.5	7.1	1.9	4.4	3.0
Fantasma	HD	HM	85		663.0	9300	7.1	13.2	8.7	7.7	2.1	5.5	3.5
Honey Pearl	HD	JS	80		631.2	16300	3.9	2.4	7.4	6.7	1.9	4.2	3.0
Morning Ice	HD	HM	85		479.0	6900	7.0	27.6	9.1	7.3	2.0	6.0	3.3
San Juan	HD	RU	75		476.0	12900	3.7	4.4	6.5	6.3	1.8	4.0	2.8
HSR 4054	GA	HL	85		635.3	11900	5.3	3.2	7.2	6.8	2.0	4.6	2.7
HSR 4036	GA	HL	70		559.1	11700	4.8	3.3	7.0	6.4	1.9	4.2	2.6
Arava	GA	JS	77		545.0	12300	4.4	3.1	6.7	6.8	1.8	4.0	3.0
Sweet Dreams	GA	SW	79		412.4	6300	6.6	13.8	7.9	7.2	2.0	4.4	3.1
Passport	GA	HL	75		375.7	7100	5.3	10.2	6.8	6.5	2.0	3.9	2.5
Crete	GA	ST	88		300.0	6500	4.6	5.8	7.4	6.6	1.9	4.7	2.8
Honey Girl Hybrid	CH	BU	75		388.2	9900	3.9	24.6	6.2	6.4	1.5	3.7	3.1
French Orange	CH	HR	75		359.5	12300	2.9	24.6	5.6	5.2	1.5	3.4	2.2
Savor	CH	JS	78		152.3	7100	2.2	45.3	5.4	5.6	1.5	3.2	2.5
Edonis	CH	JS	70		94.3	3200	2.9	71.4	6.6	5.9	1.7	4.1	2.3
Marygold	CS	RU	92		615.6	16500	3.7	1.2	7.3	6.0	1.6	4.5	3.0
Vanilla Ice	SH	BU	80		660.5	13500	4.9	5.6	6.9	6.7	1.9	4.3	3.0
HSR 4122	MM	HL	80-95		441.7	11100	4.0	1.1	6.5	6.2	1.8	4.0	2.8

<sup>1</sup>Melon type HD= honeydew, GA=galia, CS=casaba, CH=charentais, SH=specialty hybrid, MM=muskmelon.

<sup>2</sup>Cwt=hundreds of pounds per acre.

**Table 2. Specialty melon fruit and vine characteristics from single plots, Lexington, Ky., 2002.**

<b>Variety</b>	<b>Flavor (1-5)<sup>1</sup></b>	<b>Sugar (%)</b>	<b>Flesh Color<sup>2</sup></b>	<b>Rind Color<sup>3</sup></b>	<b>Fruit Shape</b>	<b>Cracking (1-4)<sup>4</sup></b>	<b>Net Type<sup>5</sup></b>	<b>Comments</b>
Honey Dew Green Flesh	4.3	12.6	lg	lg/cr	oval	1	na	Doesn't slip, firm flesh.
HSR 4156	3.3	10.0	cr-lg	lg/cr	oval	1.5	na	Doesn't slip, uniform, attractive exterior, minimal checking.
Fantasma	4.0	12.6	lg	wh/gr	oval	1	na	Doesn't slip, attractive, oddly shaped.
Honey Pearl	4.0	13.2	cr	cr/wh	oval	1	na	Doesn't slip, attractive, has a few small, light yellow spots when ripe, very good taste, large second set and melons of good quality.
Morning Ice	4.3	13.4	cr-lg	lg	oval	1	na	Doesn't slip, surface checking near stem, not uniform in shape.
San Juan	4.0	15.5	lg-gr	lg/cr	round	1	na	Doesn't slip, small melon, nice, sweet flavor.
HSR 4054	3.3	10.5	lg-gr	gr/yl	oval	1.5	md	Stem slips when ripe, some variability in fruit size and shape.
HSR 4036	3.4	9.0	lg-gr	gr/yl	oval	1	lt	Stem slips when ripe, yellow rind indicates ripeness. attractive exterior and interior.
Arava	4.5	10.4	lg-gr	yl/gr	round	1.5	md	Stem slips when ripe, very attractive.
Sweet Dreams	4.3	12.3	lg	gr/yl	oval	1.5	lt	Stem slips when ripe, consistent quality.
Passport	3.2	7.3	cr-gr	gr/yl	oval	2	md	Stem slips when ripe, attractive exterior and interior.
Crete	3.5	12.8	ly-gr	gr/yl	oval	1	md	Stem slips hard and fruit still green when ripe, quality not
Honey Girl Hybrid	4.0	10.8	do	tn w/sutures	round	1	na	Pick at half slip, taste is distinctive.
French Orange	4.5	11.5	do	tn	round	1	md	Pick at half slip, consistent taste.
Savor	3.4	11.0	do	tn w/ sutures	round	3.5	na	Pick at half slip, cracked severely and split open.
Edonis	3.8	11.4	do	tn/gr	round	3	lt	Pick at half slip, cracked severely at blossom end..
Marygold	4.0	12.9	cr	dy	oval	1	na	Doesn't slip, slight checking.
Vanilla Ice	5.0	12.1	ly	gr/yl	round	1	lt	Stem slips when ripe, mature when green and yellow speckled, slight surface checking, good flavor, variable quality between harvests.
HSR 4122	3.8	10.6	or	tn	round	1	md	Stem slips when ripe.

<sup>1</sup> Taste-1=poor, 5=excellent sweet taste, pleasant texture

<sup>2</sup> Flesh color- lg=light green, cr=cream, or=orange, do=dark orange, gr=green, ly=light yellow

<sup>3</sup> Rind color- lg=light green, gr=medium green, cr=cream, or=orange, yl=yellow, dy=dark yellow, tn=tan, wh=white.

<sup>4</sup> Cracking- 1=little or no cracking, 4=severe cracking and fruit splitting

<sup>5</sup> Net type- lt=light netting, md=medium netting, hv=heavy, raised netting, na=none.