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MELON VARIETY TRIALS 2012

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## Melon Variety Trials, 2012

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The 2012 melon variety trial included 29 varieties. The trial was seeded in the greenhouse on May 2 and transplanted to the field May 29. The plants were grown on raised beds with black plastic mulch, and were covered with Agribon rowcovers from transplanting until flowering. Harvest began on July 25 and continued until August 24, when disease pressure reduced fruit quality to the point where further harvest was pointless.

The rowcovers provided protection from striped cucumber beetles during the period of greatest susceptibility to bacterial wilt, but beetle activity was still high when flowering began. The beetles laid their eggs at the base of the melon plants, and the larvae fed on the roots and crowns. Damage became apparent once the plants had significant fruit load, when the compromised roots and crowns could no longer keep up with the developing fruit and the plants began to wilt and die. Vine decline reduced the sugar levels in fruit, and in severe cases fruit did not ripen normally. Vine decline was rated on a 1-9 scale on July 17, July 26, August 8, and August 15 and the four ratings for each plot were summed to give the score reported in table 1. A completely healthy plot would have received a score of 36. We did observe significant differences in susceptibility among varieties, but no variety completely escaped damage. When vines had completely collapsed we recorded the number of full-sized fruit remaining; these values are presented as Lost Fruit in table 2. Plots that had not completely declined were rated for powdery mildew on August 8 using a 1-9 scale where 9 indicates no disease present.

The varieties Avatar, Grand Slam, and Sugar Cube showed the best resistance to vine decline. Sugar Cube had the highest yield of the three varieties with 38 fruit, and would have yielded even more if the 23 fruit in the second flush had ripened properly. Avatar had the largest fruit, averaging 5 lbs. All of the Galia-type varieties were extremely sensitive to vine decline, as were the varieties Pixie, Tasty Bites, Oui, Riviera Sweet, and Caribbean Gold. The Galia-type melons responded to vine decline by losing the netting on the fruit; the smooth, yellow fruits had very low sugar levels. 'Ein Dor' had the least powdery mildew; unfortunately it also had extremely poor fruit set and produced no harvestable fruit. Varieties with powdery mildew scores of 6 or higher were statistically similar to 'Ein Dor' and were not seriously damaged by powdery mildew.

'Halona' produced the most fruit, 48, and the most fruit per plant, 1.7. Halona is an early-maturing variety, and the fruit was of good quality with an average brix of 10.2. Tolerance to vine decline was good, and most of the fruit matured before the plants became infected with powdery mildew. 'Napoli' had the second-highest yield; the plants were vigorous but the fruit quality was not at all memorable. 'Sweet Granite' came in third for yield despite being highly susceptible to insects and disease, but the fruit quality was so poor that no one on the crew would eat it. 'Wrangler' had the sweetest fruit, with an average brix of 11.6. The fruit were smaller than those of 'Halona', and with only 1.3 fruit per plant yield was not as good. The vines had low vigor, and only middling tolerance to vine decline.

Other varieties that impressed us with the flavor of the fruit were Goddess, Sarah's Choice, and Arava. Goddess is an early-maturing variety with decent yields of 3 lb fruit. The average brix was only 8.4 but some fruits reached 12, suggesting that the potential exists for higher brix in the absence of vine decline. The fruits had sufficient aromatics that they were very good even with brix levels in the range of 7-8. Sarah's Choice is slightly later than Goddess and has lower yields and slightly smaller fruit, but the average brix was 10.9 and many fruit had brix values in the 11.5 – 13.5 range. Goddess set a very heavy single flush of fruit, where Sarah's Choice set two flushes, but the quality of the first flush was far superior. Arava is a Galia-type melon. The fruits are wonderful when properly ripened, and the complex aromatics mean that fruit with low brix are very satisfactory as savory melons for pairing with prosciutto or ceviche. Arava was the least susceptible of the Galia types to vine decline, but only the first fruit set on each plant ripened properly, and some plants didn't even manage that.

**Table 1. Melon trial variety information and disease data**

Variety	Source	Type	VDS <sup>c</sup>	PM <sup>d</sup>	Plant Notes
<b>Abu</b>	dp Seeds	tuscan	20.3	6.3	
<b>Arava</b>	High Mowing	galia	12.0		
<b>Ariel</b>	Siegers	eastern muskmelon	23.3	3.3	
<b>Avatar</b>	Siegers	western canteloupe	30.0	6.0	
<b>Caribbean Gold</b>	High Mowing	western canteloupe	13.0		
<b>Cleopatra</b>	Harris	eastern muskmelon	15.3	5.0	small vines
<b>Diplomat</b>	JSS <sup>a</sup>	galia	8.3		
<b>Edonis</b>	JSS	charentais	18.0	3.3	low vigor
<b>Ein Dor</b>	High Mowing	ananas	15.0	8.7	poor fruit set
<b>Electra</b>	dp Seeds	western canteloupe	21.3	8.3	vigorous plants
<b>Fantasiata</b>	Seedway	LSL <sup>b</sup> eastern muskmelon	17.3	2.7	
<b>Goddess</b>	Harris	western canteloupe	16.3	4.3	small plants; early
<b>Grand Slam</b>	Siegers	western canteloupe	27.0	4.0	
<b>Halona</b>	JSS	eastern muskmelon	22.3	1.7	
<b>Maverick</b>	JSS	western canteloupe	21.0	6.7	
<b>Napoli</b>	dp Seeds; Seedway	LSL tuscan	18.3	6.7	vigorous plants
<b>Orange Sherbet</b>	dp Seeds	tuscan	20.7	3.7	
<b>Oui</b>	dp Seeds	eastern muskmelon	9.3	2.0	poor germination; only 24 plants transplanted
<b>Pixie</b>	Seedway	western canteloupe	7.3		
<b>Riviera Sweet</b>	Harris	charentais	13.7	5.0	
<b>Sarah's Choice</b>	JSS	western canteloupe	19.0	7.0	
<b>Sugar Cube</b>	Harris	western canteloupe	23.7	7.7	
<b>Sweet Granite</b>	JSS	eastern muskmelon	16.7	3.0	very small plants
<b>Tasty Bites</b>	dp Seeds; JSS	western canteloupe	9.7		
<b>Tasty Sherbet</b>	dp Seeds	tuscan	18.3	4.0	low vigor but early
<b>Tirreno</b>	Rupp	tuscan	15.7	4.0	
<b>Tweety</b>	dp Seeds	canary	14.3	7.3	most fruit didn't ripen
<b>Visa</b>	Siegers	galia	9.0		
<b>Wrangler</b>	Harris	tuscan	19.3	7.3	low vigor

<sup>a</sup> JSS is Johnny's Selected Seeds

<sup>b</sup> LSL refers to Long Shelf Life; these varieties are bred to tolerate shipping when harvested ripe

<sup>c</sup> VDS is vine decline syndrome, caused by a combination of root damage from cucumber beetle larvae, sub-clinical infection with *Erwinia tracheiphila*, and stress from heat and heavy fruit load. Plots were rated on 4 dates using a 1-9 scale and the scores were summed. A perfectly healthy plot would have a score of 36.

<sup>d</sup> Powdery mildew damage was rated on a 1-9 scale where 9 indicates no mildew present.

Table 2. Melon variety trial fruit data.

Variety	Plants at 1 <sup>st</sup> Hvst <sup>a</sup>	Fruit/ plant	Size (lbs)	Brix <sup>b</sup>	Lost Fruit <sup>c</sup>	1st Hvst	Last Hvst	Flavor Notes	
<b>Abu</b>	23	24	1.0	2.8	6.9	15	13-Aug	24-Aug	mild
<b>Arava</b>	20	17	0.9	2.2	9.8	9	26-Jul	13-Aug	crisp, good flavor - aromatic but not sweet
<b>Ariel</b>	30	28	0.9	3.5	9.2	8	26-Jul	15-Aug	
<b>Avatar</b>	26	22	0.8	5.1	6.3	9	8-Aug	24-Aug	light, fruity flavor
<b>Caribbean Gold</b>	28	8	0.3	2.4	7.3	32	15-Aug	24-Aug	
<b>Cleopatra</b>	27	26	1.0	3.0	9.6	1	25-Jul	6-Aug	crisp texture, little flavor
<b>Diplomat</b>	17	20	1.2	2.3	8.8	1	25-Jul	6-Aug	interesting flavor
<b>Edonis</b>	26	17	0.7	2.0	10.5	20	1-Aug	17-Aug	
<b>Ein Dor</b>	18	0	0.0			6	--	--	
<b>Electra</b>	25	28	1.1	3.2	8.6	26	3-Aug	24-Aug	squishy flesh
<b>Fantasia</b>	25	23	0.9	2.7	10.0	26	1-Aug	24-Aug	
<b>Goddess</b>	23	26	1.1	3.0	8.4	3	25-Jul	8-Aug	excellent flavor! Good even with low brix
<b>Grand Slam</b>	30	27	0.9	3.8	9.1	11	30-Jul	24-Aug	
<b>Halona</b>	29	48	1.7	2.5	10.2	6	25-Jul	15-Aug	soft flesh with excellent flavor
<b>Maverick</b>	30	38	1.3	2.1	9.4	13	30-Jul	13-Aug	
<b>Napoli</b>	30	41	1.4	2.2	9.0	15	30-Jul	24-Aug	
<b>Orange Sherbet</b>	29	24	0.8	3.5	7.9	10	3-Aug	15-Aug	musky
<b>Oui</b>	14	18	1.3	1.7	8.6	5	28-Jul	15-Aug	
<b>Pixie</b>	14	6	0.4	1.1	5.2	15	1-Aug	6-Aug	
<b>Riviera Sweet</b>	23	14	0.6	1.9	6.6	17	3-Aug	20-Aug	very musky but not sweet
<b>Sarah's Choice</b>	26	23	0.9	2.5	10.9	14	25-Jul	10-Aug	very good - one of our favorites
<b>Sugar Cube</b>	28	38	1.4	1.4	11.1	23	3-Aug	24-Aug	musky, not too sweet
<b>Sweet Granite</b>	27	39	1.4	1.7	6.4	1	25-Jul	10-Aug	not good - mushy and bland
<b>Tasty Bites</b>	15	24	1.6	1.0	10.3	21	28-Jul	24-Aug	
<b>Tasty Sherbet</b>	28	30	1.1	3.1	8.9	6	25-Jul	13-Aug	simple, sweet
<b>Tirreno</b>	28	18	0.6	2.3	8.7	8	26-Jul	24-Aug	sweet and crisp
<b>Tweety</b>	12	9	0.8	2.5	8.2	2	13-Aug	17-Aug	mild flavor, not sweet - needs lime!
<b>Visa</b>	17	24	1.4	1.8	7.5	3	25-Jul	8-Aug	little flavor
<b>Wrangler</b>	27	34	1.3	2.0	11.6	3	25-Jul	24-Aug	mildly fruity

<sup>a</sup> All varieties started with 30 plants except as noted. Losses prior to first harvest were caused by bacterial wilt and vine decline syndrome.

<sup>b</sup> Brix measurements are based on at least 3 fully ripe fruit per variety, and 3 samples per fruit.

<sup>c</sup> Lost fruit refers to fruit that reached full size but failed to ripen before the vines died.

THE BACTERIAL INFECTION OF FRESH EGGS

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