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

[a] JSS is Johnny's Selected Seeds

[b] LSL refers to Long Shelf Life; these varieties are bred to tolerate shipping when harvested ripe

[c] VDS is vine decline syndrome, caused by a combination of root damage from cucumber beetle larvae, sub-clinical infection with *Erwinia trachephila*, 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.

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

[a] All varieties started with 30 plants except as noted. Loses prior to first harvest were caused by bacterial wilt and vine decline syndrome.

[b] Brix measurements are based on at least 3 fully ripe fruit per variety, and 3 samples per fruit.

[c] 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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