

Muskmelon Cultivar Trial

RFR-A1851

Dominic Snyder, ag specialist
Muscatine Island Research Farm

Introduction

The 2018 muskmelon trial evaluated 14 cultivars to determine their relative maturity, yield potential, and fruit characteristics when grown on black plastic mulch and fertigated with drip irrigation. Cultivars were selected by seed companies and local growers to compare industry standard melons to newer varieties.

Materials and Methods

The muskmelon trial was started in the greenhouse May 11 by planting one seed/cell in 72 cell trays. Transplanting to the field occurred May 30. Trial design was a randomized complete block with four replications. A plot consisted of one row of eight plants spaced 21 in. apart in rows spaced 6 ft apart. Soil type was light-colored coarse sand. Cultural methods included raised beds fertigated with drip tubes and covered with black plastic mulch. Fertilizer was applied preplant incorporated in the bed at the rate of 70 lb/acre N, 70 lb/acre P₂O₅, and 200 lb/acre K₂O. An additional 40 lb/acre N was applied through drip lines during the growing season. Weed control was achieved by covering beds with black plastic mulch, spraying Strategy and Sandea herbicide, and hand weeding as needed. No insecticide was applied during the growing season. Foliage diseases were controlled with fungicide applications as needed. Pollination was helped by having three bee hives on the farm.

All melons were weighed after harvest. Soluble solids samples were taken from 20 melons of each cultivar with a refractometer.

Results and Discussion

Field growing conditions remained warm throughout the entire growing season, which promoted good vine growth. Plot harvest occurred from July 25 to August 11 and yield and fruit quality were considered good overall.

Goddess was the first cultivar to be harvested and it had excellent fruit quality, but its fruit quality dropped after a week of harvesting.

Sugar Cube was the smallest cultivar with an average weight of 2.4 lb (Table 1). Verona was the largest with an average of 8.4 lb (Table 1). Yields are shown in Table 2.

The trial had two cultivars of long shelf life (LSL) melons, which are becoming more popular in the industry. The two representing cultivars were Sweet Sunrise and Shockwave. These two cultivars had the highest soluble solids percentage. The LSL melons had the firmest flesh of all the melons in the trial.

Vine crops can be sensitive to environmental conditions and it is highly recommended new cultivars be trialed under a producer's own growing conditions before fully committing to a large commercial planting.

Acknowledgements

Thank you to the following companies for providing products for evaluation: Harris Seeds, Seneca Vegetable Research, Inc., Siegers Seed Co., and Syngenta Seeds.

Table 1. Muskmelon cultivar seed sources and fruit characteristics.

Cultivar	Seed source	Avg. fruit wt (lb)	Fruit by weight category (%)			Soluble solids (%)
			< 5 lb	5-7 lb	> 7 lb	
Sugar Cube	Seneca	2.4	100	0	0	8.6
Shockwave	Seneca	4.5	64	32	4	12.4
Athena	Syngenta	5.1	33	57	10	9.9
Sweet Sunrise	Syngenta	5.2	24	73	3	12.1
Goddess	Seneca	5.4	33	56	11	9.2
Aftershock	Seneca	5.5	29	55	16	10.8
Accolade	Syngenta	5.7	21	64	15	9.5
ME 4858	Syngenta	5.8	26	51	23	9.1
Astound	Syngenta	6.0	20	63	17	9.0
Atlantis	Harris	6.1	15	64	21	9.8
Grand Slam	Siegers	6.5	15	31	54	9.1
Rockstar	Seneca	7.0	5	52	43	9.4
Aphrodite	Syngenta	7.4	13	16	71	10.0
Verona	Seneca	8.4	6	20	74	10.5

Table 2. Muskmelon cultivar yield.

Cultivar	Melons/acre	Harvest/acre (lb/acre)
Sugar Cube	7,325	17,497
Shockwave	5,430	24,594
Athena	6,314	32,342
Sweet Sunrise	5,725	29,761
Goddess	6,819	36,673
Afterglow	3,031	16,581
Accolade	5,556	31,496
ME 4858	4,799	28,023
Astound	4,294	25,964
Atlantis	4,167	25,510
Grand Slam	4,925	32,089
Rockstar	4,673	32,683
Aphrodite	3,536	26,293
Verona	3,789	31,824