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Muskmelon Cultivar Trial

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Abstract

The 2012 muskmelon trial evaluated twelve cultivars to determine their relative maturity, yield potential, and fruit characteristics when grown on black plastic mulch and fertigated with drip irrigation.

Keywords

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Muskmelon Cultivar Trial

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Introduction

The 2012 muskmelon trial evaluated twelve cultivars to determine their relative maturity, yield potential, and fruit characteristics when grown on black plastic mulch and fertigated with drip irrigation.

Materials and Methods

The muskmelon trial was planted in the greenhouse on April 9 in 72 cell trays, one seed/cell. Transplanting to the field occurred five weeks later on May 14. 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 7 ft apart. Soil type was light-colored coarse sand. Cultural methods included raised beds that were 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 nitrogen (N), 70 lb/acre P₂O₅, and 220 lb/acre K₂O. An additional 50 lb/acre N was applied through drip lines during the growing season. Weed control was achieved by covering beds with black plastic mulch and spraying Strategy and Sandea herbicides between the beds. Insects were controlled with Admire insecticide at planting and foliar applications of insecticides as needed. Foliage diseases were controlled with fungicide sprays of Bravo, Cabrio, Kocide, and Penncozeb fungicides.

Results and Discussion

The growing season started cool and windy but quickly turned sunny and warm promoting good muskmelon growth and fruit development. Trial yields, fruit size, and quality were generally considered to be good at

harvest. Cultivars are arranged by their average fruit weight in Tables 1 and 2 from largest to smallest. All cultivars are reported to have some level of resistance to Fusarium Wilt and powdery mildew by their parent companies—two traits considered necessary for good production at the research farm. All entries in this trial produced acceptable yields but their fruit characteristics (appearance, size, sweetness, etc.) varied greatly. Information gathered from this trial report can be used to select suitable cultivars for intended markets. However, due to the finicky nature of vine crops it is recommended that growers also do trial plantings of new cultivars to determine performance in their specific growing conditions before committing to a large commercial planting.

Growers wanting large firm fruit with uniform size and good shelf life for marketing to stores should consider Aphrodite, Atlantis, Grand Slam, and Strike. These cultivars have performed well in previous trials and continue to do so. Note in Table 2 the high percentage of fruit in the desirable 5 to 7 lb weight range produced by Atlantis and Grand Slam.

Some observations on new entries in the trial: Gold Bullion (Abbott & Cobb) looked promising for commercial markets because of its large, oval-shaped fruit that were comparable to Atlantis and Grand Slam in appearance and quality. Gold Doubloon, also from Abbott & Cobb, produced large attractive fruit with elongated shape, pronounced ribbing, and green sutures. The thick meat was firm and good tasting. Unfortunately, rind cracking at the stem end of some fruit occurred if harvesting was delayed until full slip. Rupp Seeds provided two entries, Majus and Tirreno, that both produced medium-sized oval fruit with striking green sutures and good eating quality (particularly

Majus). However, to avoid rind cracking both cultivars needed to be cut from the vine before full slip. Orange Sherbet was in a class by itself. It is advertised as a gourmet quality Tuscan/eastern shipper weighing 4 to 6 lb. The fruit didn't get that heavy in this trial averaging just 2.6 lb, but still a nice size for single servings. Most impressive was the solid but consistently great tasting flesh with the highest soluble solids readings in the trial of 13.8 percent. Solstice produced large ribbed fruit

similar in appearance to the once popular Super Star. Unfortunately, the stem end of the fruit also cracked open like Super Star and the flesh was somewhat watery with low soluble solids content. Avatar produced the largest fruit in the trial, weighing an impressive 8.4 lb on average. While size alone will make it attractive to some growers the soluble solids content (sweetness) of Avatar was a little disappointing and not as high as some of the other entries.

Table 1. Muskmelon cultivar fruit characteristics.

Cultivar	Seed source ^a	Avg. frt wt (lb)	Percent fruit by weight category			Soluble solids (%)
			< 5 lb	5-7 lb	> 7 lb	
Avatar	SK	8.4	0	19	81	9.8
Gold Doubloon	AC	7.6	6	31	63	11.1
Aphrodite	SY	7.1	8	48	45	11.3
Solstice	RU	7.0	5	44	51	9.0
Gold Bullion	AC	6.7	10	57	33	10.8
Grand Slam	HL	6.2	4	76	20	10.9
Atlantis	SK	5.9	17	63	19	11.0
Strike	HL	5.5	38	57	6	10.3
XLT 9000	AC	5.5	47	37	16	12.9
Majus	RU	5.0	50	41	9	13.2
Tirreno	RU	4.9	55	42	4	11.8
Orange Sherbet	RU	2.6	100	0	0	13.8

^aAC=Abbott & Cobb, HL=Hollar & Co., RU=Rupp Seeds, SK=Sakata Seeds, SY=Syngenta Seeds

Table 2. Muskmelon cultivar trial yields and comments.

Cultivar	Days to harvest	No. frt/ acre	Yield lb/acre	Comments
Avatar	57	6,519	54,925	Huge round fruit, thick walls, open seed cavity
Gold Doubloon	58	5,808	44,287	Oblong, ribbed, green sutures, stem end cracking
Aphrodite	55	6,164	43,608	Large round to oval fruit, large cavities
Solstice	56	6,875	47,953	Large, ribbed, fruit softened quickly, fruit cracking
Gold Bullion	59	6,282	41,777	Firm round fruit with faint sutures
Grand Slam	57	7,349	45,748	Fruit uniform and solid, concentrated set and harvest
Atlantis	57	6,365	37,394	Oval to oblong shape, thick firm walls
Strike	54	7,942	43,282	Uniform, firm, smooth oval shape
XLT 9000	63	6,650	36,575	Round western shipper type with good shelf life
Majus	55	7,586	37,551	Round, green sutures, great flavor, rind cracking
Tirreno	59	8,297	41,279	Oval, green sutures, tight cavity, rind cracking
Orange Sherbet	56	12,802	33,284	Small round fruit with great flavor
Average		7,387	42,305	