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Muskmelon Cultivar Trial

Vincent Lawson

Iowa State University, vlawson@iastate.edu

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Abstract

The 2013 muskmelon and honeydew trial evaluated 18 cultivars to determine their relative maturity, yield potential, and fruit characteristics when grown on black plastic mulch and fertigated with drip irrigation.

Disciplines

Agricultural Science | Agriculture

Muskmelon Cultivar Trial

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Vince Lawson, farm superintendent

Introduction

The 2013 muskmelon and honeydew trial evaluated 18 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 started in the greenhouse on April 10 by planting one seed/cell in 72 cell trays. Transplanting to the field occurred six weeks later on May 23. Trial design was a randomized complete block with two replications. A plot consisted of one row of eight plants spaced 21 in. apart in rows spaced 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 as needed.

Results and Discussion

Field growing conditions started out cool and wet but sunny skies and warmer temperatures by late June resulted in vigorous vine growth. Plot harvest occurred from July 18 to August

16 and yield and fruit quality were considered good overall. Table 1 presents cultivar yield data with the cultivars arranged by maturity, expressed as number of days to harvest from transplanting. Goddess was the first cultivar to be harvested. The two honeydew entries, Honeybrew and Jade Delight, were the last to be harvested, taking a full 80 days to produce fruit of marketable maturity. Table 2 presents observations on fruit characteristics with cultivars arranged by average fruit weight, from largest (Avatar, 8.3 lb) to smallest (Sugar Cube, 2.0 lb).

Although all cultivars produced decent yield, their fruit characteristics, such as appearance, fruit size, firmness, and sweetness varied greatly. Several of these important cultivar fruit traits are noted in Tables 1 and 2 and can be used to select suitable cultivars for intended markets. Keep in mind vine crops can be sensitive to environmental conditions and it is highly recommended new cultivars be trialed under your own growing conditions before fully committing to a large commercial planting.

Best of trial. Growers wanting extra-large fruit should consider Avatar and Aphrodite. For markets that require cultivars having good yield, uniform appearance, and long shelf life, consider Athena, Ariel, Atlantis, Grand Slam, and Strike. Note in Table 2 the high percentage of fruit in the desirable 5 to 7 lb weight range produced by Atlantis and Grand Slam. For local markets that will reward a grower for the extra effort required to grow and market something a little different with high quality, consider Majus, Sugar Cube (personal size), Tirreno, and the honeydew type Honeybrew.

Table 1. Muskmelon and honeydew cultivar trial days to harvest from transplanting, yield, and comments.

Cultivar	Days to harvest	No. frt/ acre	Yield lb/acre	Comments
Goddess	58	5,638	24,760	Round fruit became overripe and soft quickly, good flavor
Majus	62	6,089	32,089	Oval fruit with green sutures, large cavity, sweet flesh
Duchess	64	8,118	30,668	Small oval fruit, rough appearance, good flavor but became soft and watery quickly
Strike	64	5,412	27,917	Very firm oval shaped fruit, small cavity
Athena	65	6,540	37,636	Oval shape, firm flesh of high quality
Solstice	66	6,314	44,085	Large ribbed fruit with green sutures, susceptible to stem end cracking, soft watery flesh
Ariel	67	5,187	32,044	Mostly round and firm, variable fruit size
Avatar	69	6,765	55,856	Large fruit, thick walls
Grand Slam	69	7,893	49,633	Concentrated fruit set, uniform size and appearance, firm
Atlantis	69	6,991	42,011	Oval to oblong, thick firm flesh, uniform size and appearance
Tirreno	69	6,748	37,790	Round to oval shape, green sutures, cut from vine to reduce fruit cracking, tight cavity, sweet flesh
RML 0609	69	7,442	35,584	Round, dense netting, firm flesh, nice sweet flavor
Aphrodite	69	4,961	35,516	Large fruit with thick firm flesh, good quality
Sugar Cube	69	10,824	21,377	Small personal size muskmelon with exceptional flavor
Orange Sherbet	72	5,638	38,515	Tuscan type melon, oval shape, green sutures, tight cavity, cut from vine to reduce cracking and soft fruit
Moneyloupe	72	5,029	34,704	Large oval to oblong fruit
Honeybrew	80	7,667	53,669	Honeydew, should be cut from vine to prevent fruit cracking, great flavor if allowed to mature on vine
Jade Delight	80	5,863	38,944	Honeydew, green to white flesh, needs to be cut from vine before full slip to reduce fruit cracking
Average		6,627	37,456	

Table 2. Muskmelon cultivar seed sources and fruit characteristics.

Cultivar	Seed source^a	Avg frt wt (lb)	% fruit by weight category			Soluble solids %
			< 5 lb	5-7 lb	> 7 lb	
Avatar	SK	8.3	0	27	73	10.5
Aphrodite	SY	7.2	13	32	55	11.3
Solstice	RU	7.0	14	37	49	8.9
Honeybrew ^b	TW	7.0	5	53	42	13.8
Moneyloupe	TW	6.9	4	55	41	10.6
Orange Sherbet	RU	6.9	4	56	40	10.8
Jade Delight ^b	SG	6.6	11	59	30	14.3
Grand Slam	HL	6.3	3	80	17	10.6
Ariel	SY	6.2	22	52	26	10.2
Atlantis	SK	6.0	13	71	16	10.9
Athena	SY	5.7	37	50	13	11.7
Tirreno	RU	5.6	33	62	5	11.9
Majus	RU	5.3	45	52	3	12.1
Strike	HL	5.2	36	64	0	10.8
RML 0609	SY	4.8	45	55	0	11.4
Goddess	TW	4.4	61	39	0	10.6
Duchess	TW	3.8	94	6	0	11.4
Sugar Cube	SG	2.0	100	0	0	12.8

^aAC=Abbott & Cobb, HL=Hollar & Co., RU=Rupp Seeds, SK=Sakata Seeds, SG=Siegers Seed, SY=Syngenta Seeds, TW=Twilley Seeds.

^bHoneybrew and Jade Delight are honeydew type melons.