

## Early, Short Row Trial of Eastern Muskmelons in Southwestern Indiana, 2006

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Indiana is a leader in the nation for production of eastern muskmelon with Knox, Sullivan, and Gibson counties ranking in the top 100 melon producing counties. The evaluation of newly released varieties and advanced experimental breeding lines in an independent assessment is extremely valuable for growers and seed producers in the commercial melon industry. The objective of this study was to comparatively evaluate and identify potential new cultivars and advanced experimental breeding lines that may be adaptable to the growing conditions in southwestern Indiana. Growers are seeking high yielding, high quality, early maturing types with excellent disease resistance and acceptable keeping quality during shipping and storage. Fruit need to be medium to large and have high uniformity in both size and shape. Traditionally, markets have demanded fruit with heavy netting and distinct ridges. Melons that can be stored and held easily for longer periods of time, and those that could be harvested at a slightly earlier slip-stage and still retain acceptable quality would also be desirable.

### Experimental Setup:

Fifteen eastern muskmelon cultivars and advanced experimental lines were evaluated in a randomized complete block design with three replications. Each entry was first direct seeded in the greenhouse on April 14, 2006 and transplanted into the field on May 12, 2006. Plots consisted of single 25-foot long rows, covered with 4 ft. wide black plastic mulch. Rows were centered six feet apart, and between plant spacing (within a row) was 2.5 ft., allowing 10 plants per row. Each variety and experimental line was grown in accordance with the recommendations outlined in the Midwest Vegetable Production Guide for Commercial Growers (ID-56, 2006). Trickle irrigation lines placed beneath the plastic mulch provided water as needed. Fruits were harvested three times a week by hand from July 17, 2006 through August 7, 2006. Data were analyzed with the SAS Software package (SAS Corp., Cary, NC).

### Results:

Yield Values: The average yield was 11.6 tons/acre with a range of 6.6 to 15.7 tons/acre (Table 1). The mean fruit weight was 6.2 lbs/fruit with a range of 3.9 to 8.3 lbs/fruit. This translated to 2251 to 4701 fruit/acre with a mean fruit number of 3772 fruit/acre. HMX 4587 had the highest yield in this year's trial followed by HMX 2607, Eclipse, RML 0408 and Crescent Moon. The earliest fruit in this trial were harvested at 94 days. Quality ratings of each tested variety or advanced experimental line appear in the report for Eastern Muskmelon Variety Trials in Southwestern Indiana, 2006, in this bulletin. Two varieties, RML 0409 and RML 0408 appear in this report in Table 2.

Table 1. Yield comparison of Eastern muskmelon cultivars in Southwestern Indiana, 2006.

Cultivar	Seed Source	Days to Harvest	Yield Cwt./A	Yield Tons/A		Fruit No./A	Average Fruit Weight (lbs)
HMX 4587	HM		315.2	15.7	a	3833	8.3
HMX 2607	HM		289.2	14.5	ab	4701	6.1
Eclipse	SM		270.6	13.5	abc	4001	6.8
RML 0408	RG		265.1	13.2	abc	4138	6.4
Crescent Moon	SE		256.9	12.9	abc	3368	7.7
Minerva	RG		245.1	12.2	abcd	3703	6.6
Aphrodite	RG		244.3	12.2	abcd	3520	6.9
ES-253	AC		240.2	12.0	bcde	3684	6.5
RML 0409	RG		237.1	11.8	bcde	4008	5.9
Jaipur	SM		234.7	11.7	bcde	4349	5.4
ACX 2100	AC		229.3	11.5	bcde	3319	6.9
ES-293	AC		218.5	10.9	cde	2904	7.6
Athena	RG		218.0	10.9	cde	4646	4.6
SSX 1268	STS		205.4	10.3	cde	3601	5.8
SV04H154	SE		186.3	9.3	def	3801	4.9
4099	SM		168.9	8.5	ef	4298	3.9
9101 Max	AC		130.7	6.6	f	2251	5.8
Grand Mean		102.0	232.7	11.6		3772	6.2
LSD (5%)		2.8	70.7	3.5		1147	0.9
C.V. (%)		1.6	18.3	18.3		18	8.4

Table 2. Quality comparison of two Eastern muskmelon cultivars in Southwestern Indiana, 2006. For quality evaluation of the remaining melons in this trial, see the other report included in this bulletin.

Cultivar	Seed										
	Source	% SS <sup>q</sup>	Shape <sup>r</sup>	Size <sup>s</sup>	Uniformity <sup>t</sup>	Flavor <sup>u</sup>	Netting <sup>v</sup>	Ridges <sup>w</sup>	Rind <sup>x</sup>	Cavity <sup>y</sup>	Pressure <sup>z</sup>
RML 0408	RG	10.4	R	Sm	3	3.3	2	0	1	Sm	6.6
RML 0409	RG	7.4	R	Sm	3	3.5	2	1	1	M	4.0

<sup>q</sup> %SS = Percent Soluble Solids: the higher the value, the greater the amount of total sugar.

<sup>r</sup> Shape: Rd=round, Ov=oval, Ob=oblong.

<sup>s</sup> Size: S=small, M=medium, L=large, VL=very large.

<sup>t</sup> Uniformity (1 to 3): 1=lack all uniform/variable, 2=average, 3=very uniform.

<sup>u</sup> Flavor (1 to 5): 1=very poor, 3=acceptable, 5=great.

<sup>v</sup> Netting (1 to 3): 1=weak, 2=moderate, 3=heavy.

<sup>w</sup> Ridges (0 to 3): 0=absent, 1=light, 2=moderate, 3=heavy/large.

<sup>x</sup> Rind (1 to 3): 1=thin, 2=moderate, 3=thick.

<sup>y</sup> Seed cavity: S=small, M=medium, L=large, VL=very large.

<sup>z</sup> Pressure = Pressure test reading in pounds per square inch