

1988

MUSKMELON CULTIVAR EVALUATION TRIALS
FOR NORTHWESTERN OHIO

Dale W. Kretchman, Mark A. Jameson, and Charles C. Willer

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Department of Horticulture
The Ohio State University
Ohio Agricultural Research and Development Center
Wooster, OH

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MUSKMELON CULTIVAR EVALUATION TRIAL FOR
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Eleven cultivars and lines of muskmelon, were evaluated in a replicated trial at the Vegetable Crop Branch of the Ohio Agricultural Research and Development Center near Fremont, Ohio. An additional 10 lines were evaluated in non-replicated plots.

Seeds were sown in a commercial peat-vermiculite mix in 2 1/4 in. square peat pots on May 11. Two plants were grown in each pot. Plants were field set on June 6. Prior to planting, the field received 500 lbs per acre of 10-20-20 broadcast and lightly incorporated. Rows were marked on 6 ft. centers. Four-ft. wide, 1.5 mil black plastic mulch was placed over the rows with a commercial mulch layer and the plants were set through the plastic by hand. Rows were 30 ft. long and the 2-plant pots spaced 30 in. apart. One-half pint of a starter solution of 1 qt. of 10-34-0 per 50 gallons of water was applied to each pot after field setting. There were 4 replications of each cultivar in the replicated trial in a randomized block design, and the entire row of each plot was harvested for data. Standard practices for weed, insect, and disease control were used and no serious problems occurred. A hive of honeybees was placed near the plots to assist pollination.

<u>Rainfall:</u> June 6 to 30	0.63 in.	<u>Irrigation:</u> June 11	1.5 in.
July	5.35 in.	June 17	1.0 in.
August	2.79 in.	July 2	3.0 in.
to September 8	.26 in.		

Harvest: Started July 31 and continued through August 31.

The season was characterized by above normal temperatures and below normal rainfall during early growth and development. Irrigation (sprinkler) was required to prevent serious plant stress and the plant growth was excellent. However, it did appear that the fruit setting period continued over a longer time than normal and thus, fruit ripening was quite extended. Most cultivars and lines appeared to lack uniformity of fruit sizes. The primary causes for cullage were fruit cracking around the stem-end and small fruit size. Although an active beehive was placed adjacent to the plots, bee activity was likely influenced adversely by the high temperature conditions. Seed counts were not made, but it did appear that seed content was somewhat low in some fruits which were cut for internal quality ratings.

Certain cultivars and lines show sufficient promise to justify further trial under Ohio conditions. Included are Carnival, Pulsar and HXP-3593. Eastern Star is an early, high yielding melon with an oblong or oval shape.

All publications of the Ohio Agricultural Research and Development Center are available to all on a nondiscriminatory basis without regard to race, color, national origin, sex, handicap, or religious affiliation.

TABLE 1. Harvest date, yield, grade and fruit size of muskmelon cultivars or lines--Replicated Trial, Fremont, Ohio, 1988.

Cultivar	Seed Source	First Harvest date	Early Yield for Period 7/31-8/9		
			Marketable Fruit		
			cwt/ A	Size (lbs)	% Culls
Superstar	HM	8-9	24	5.8	37.6
Eastern Star	MS	7-31	162	7.2	6.8
All Star	HM	8-8	10	3.4	17.0
Pulsar	ST	7-31	121	4.9	19.4
Canada Gem	ST	8-8	48	4.4	0.0
Burpee Hybrid	BU	8-8	61	4.6	13.4
Road Runner	PS	8-8	37	4.3	12.3
Gold Star	HM	8-8	35	3.7	15.9
Grand Gold	ST	8-9	4	3.2	57.5
Carnival	AS	8-9	3	2.5	0.0
Earlisweet	ST	7-31	166	2.4	26.6
LSD .05			46.7	2.2	33.7

Table 1. Harvest Date, yield, grade and fruit size of muskmelon cultivars or lines - Replicated Trial, Fremont, OH 1988. (cont.)

Cultivar	Season Total Yield			Fruit SS (%)		Flavor Rating*			
	Cwt/ A	Size (lbs)	% Culls	8/11	8/17	8/11	8/17		
Superstar	594	6.6	16.4	9.9	11.3	2	2		
Eastern Star	528	7.9	20.9	7.7	----	2	-		
All Star	479	4.2	20.9	10.8	10.3	4	4		
Pulsar	458	5.4	22.2	8.7	10.0	2	3		
Canada Gem	447	4.7	15.6	12.7	11.2	1	1		
Burpee Hybrid	438	4.4	16.8	11.1	9.3	1	1		
Road Runner	438	4.7	15.3	11.3	9.8	2	3		
Gold Star	414	3.9	20.1	8.9	11.3	2	1		
Grand Gold	378	3.6	25.9	11.8	12.2	3	3		
Carnival	362	3.8	17.2	10.6	11.8	1	2		
Earlisweet	318	2.7	33.2	11.6	10.0	4	2		
LSD .05			85.1	.49	8.7	--	--	-	-

*Flavor Rating: 1 = excellent muskmelon flavor; 2 = sweet to very sweet; 3 = bland or flat; 4 = off-flavor (usually undesirable).

TABLE 2. Harvest date, yield, grade and fruit size of muskmelon cultivars and lines - Observational Trial, Fremont, Ohio - 1988.

Cultivar	Seed Source	First Harvest date	Early Yield for Period 7/31-8/9		
			Marketable Fruit		
			cwt/ A	Size (lbs)	% Culls
XPH-5361	AS	8-8	14.0	5.8	50.0
HXP-3593	HM	8-9	97.5	6.7	0.0
M-105	MS	8-9	14.5	6.0	0.0
HMX-4599	HM	8-8	65.3	5.4	44.4
XPH-5362	AS	8-9	16.2	6.7	0.0
86-M166	MS	8-13	0.0	0.0	0.0
M-103	MS	8-15	0.0	0.0	0.0
M-104	MS	8-8	76.7	3.5	50.0
Quick Sweet	ST	8-13	0.0	0.0	0.0
Concorde	AS	8-9	0.0	0.0	100.0

TABLE 2. Harvest date, yield, grade and fruit size of muskmelon cultivars and lines - Observational Trial, Fremont, Ohio - 1988. (cont.)

Cultivar	Season Total Yield			Fruit SS (%)		Flavor Rating*	
	Marketable Fruit						
	Cwt/ A	Size (lbs)	% Culls	8/11	8/17	8/11	8/17
XPH-5361	535.5	5.4	14.6	8.6	8.6	3	4
HXP-3593	517.3	6.1	28.6	8.6	10.9	2	4
M-105	468.0	6.4	30.2	13.0	10.8	3	3
HMX-4599	393.7	5.4	38.8	11.8	9.2	4	4
XPH-5362	388.8	5.2	26.2	6.7	7.5	2	4
86-M166	381.8	4.1	37.5	----	9.1	-	4
M-103	351.3	4.5	33.3	12.4	10.4	3	4
M-104	345.5	4.2	44.3	7.6	4.2	4	4
Quick Sweet	317.5	4.4	37.5	----	11.4	-	2
Concorde	181.7	2.6	43.1	13.7	14.7	4	2

*Flavor Rating: 1 = excellent muskmelon flavor; 2 = sweet to very sweet; 3 = bland or flat; 4 = off-flavor (usually undesirable).

TABLE 3. Additional observations on muskmelon trial - OSU/OARDC, Fremont, Ohio - 1988.

Cultivar	Comments
All Star	Light ribbing, heavy shallow netting, light orange flesh, medium seed cavity, round, good uniformity.
Burpee Hybrid	Medium ribbing, medium netting, medium to dark orange flesh, medium seed cavity, round to oval, fair to good uniformity.
Canada Gem	Medium ribbing, medium shallow netting, medium to dark orange flesh, large seed cavity, oval shape, fair uniformity.
Carnival	Medium ribbing, heavy netting, dark orange flesh, small seed cavity, oval, stem end cracks, good uniformity.
Concorde	Light ribbing, heavy shallow netting, dark orange flesh, stringy texture, medium-large seed cavity, stem end cracks, small round, good uniformity.
Earlisweet	Light ribbing, heavy shallow netting, medium light orange flesh, medium seed cavity, round, fair uniformity.
Eastern Star	Medium ribbing, medium to light netting, light orange flesh, medium seed cavity, protruding stem end, fair uniformity, an early melon, oblong shape.
Grand Gold	Light ribbing, heavy netting, light orange flesh, small to medium seed cavity, round to oval, hard melon, good uniformity.
Gold Star	Medium to deep ribbing, heavy netting, medium orange flesh, medium to large seed cavity, round, fair to good uniformity.
Pulsar	Medium ribbing, medium heavy netting, medium to light orange flesh, small to medium seed cavity, slightly earlier than Superstar, large stem scar, fair uniformity.
Quick Sweet	No ribbing, heavy shallow netting, dark orange flesh, small seed cavity, very soft melon, round, good uniformity, very late maturity.
Superstar	Medium ribbing, heavy shallow netting, dark orange flesh, medium large seed cavity, large irregular shape-generally round, fair uniformity.
Road Runner	Medium to light ribbing, heavy shallow netting, light orange flesh, large seed cavity, stem not freely separating, fair to poor uniformity.
M-103	No ribbing, heavy deep netting, light orange flesh, small seed cavity, round, western type, not impressive, stem end cracks.
M-104	Light ribbing, heavy netting, light orange flesh, medium seed cavity, oval, good uniformity.
M-105	Light ribbing, heavy deep netting, light orange flesh, stringy texture, large seed cavity, round, large melon, western type, stem end protrudes, not impressive, stem end cracks.
HXP-3593	Medium ribbing, fine shallow netting, medium orange flesh, large seed cavity, round, good uniformity.
HMX-4599	Deep ribbing, heavy deep netting, medium orange flesh, large seed cavity, medium size, round, good uniformity, highly disagreeable aromatic off-flavor.
XPH-5361	Medium ribbing, medium shallow netting, medium orange flesh, large seed cavity, oval shape, good uniformity.
XPH-5362	Medium ribbing, heavy netting, medium orange flesh, large seed cavity, oval shape, medium size, good uniformity.
86-M166	Light ribbing, heavy netting, medium orange flesh, small seed cavity, stem end cracks, oval shape, stem end protrudes, very late maturity, fair uniformity.