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MUSKMELON CULTIVAR EVALUATION TRIALS

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Muskmelon Cultivar Evaluation Trials for 1978

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Muskmelon cultivars were evaluated during the summer of 1978 at the Ohio State University Horticulture Farm in Columbus and at the Ohio Agricultural Research and Development Center Crops Research Unit at Green Springs. Eight lines and hybrids were compared in replicated plots at Green Springs. Seventeen lines and hybrids were observed in non-replicated plots at Columbus and 11 were observed at Green Springs.

Cultural Information

Green Springs

Plant Growing: Seeds were sown in 2 1/4 in. sq. peat pots on May 4. Pots contained a mixture of 1/3 each, soil, peat and sand. Two plants were grown per pot. Plants were field set by hand on June 1.

Field Culture: 600 lb/A of 6-24-24 was broadcast and worked in prior to planting. Also, 175 lb/A of 5-30-15 was drilled in the row prior to laying the plastic. Four-ft. wide, 1.5 mil black plastic mulch was laid on 6 ft. centers immediately before transplanting. Rows were 25 ft. long and the 2-plant pots were spaced 30 in. apart. There were 3 replications of each cultivar in the replicated trial. One-half pint of starter solution of 6 lb/100 gal. of 10-52-17 was added to each hill at planting. Vegiben 2E was sprayed between the plastic at 2 lb/A for weed control. All other cultural practices during the season were according to standard recommendations and no serious insect, disease or weed problems occurred.

<u>Rainfall:</u>	June 1	4.87 in.
	July	2.19 in. (irrigated 7/19)
	August	3.92 in.
	to Sept. 11	0.00 in.

Harvest: Started August 4 and continued through September 11.

Columbus

Plant Growing: Seeds were sown on May 10 into 2 1/2 in. Cel-Packs. Two plants were grown in each pot. Plants were field set by hand on June 5.

Field Culture: 800 lb/A of 12-12-12 was broadcast and plowed down prior to planting. Four-ft. wide, 1.5 mil black plastic mulch was laid on 6-ft. centers before planting. Rows were 25 ft. long and hills were spaced 30 in. apart. One-half pint per hill of starter solution of 6 lb/100 gal. of 10-52-8 was applied at planting. Dacthal at 8 lb/A was applied to the unmulched area between the rows for weed control. Cultural operations during the growing season were according to recommended practice.

Harvest: Started August 4 and continued through September 5.

Results and Discussion

Yield, grade and fruit size results for the first 10 days after the start of the harvesting of the earliest cultivar and the total season's harvest from the replicated trial at Green Springs are summarized in Table 1. There are some obvious differences between cultivars and lines.

Yield, grade and fruit size results from the observational trials are summarized in Tables 2 and 3. Space limitations at the Columbus location prevented the inclusion of a replicated trial.

Fruit quality evaluation data are presented in Table 4. Quality ratings vary greatly between cultivars. Obviously ripeness has a great influence on these quality factors and it is not always possible to evaluate all cultivars and lines with the same degree of ripeness. Nevertheless, these data should give a general indication of the quality of the lines evaluated. An additional discussion of fruit quality is presented in Table 5.

Some of the cultivars and lines do not have deep ribbing or sutures, or heavy netting and growers should consider their market requirements when selecting some of these lines or cultivars. Occasionally, a cultivar or line may have some other exceptional attribute such as earliness, very high quality, very good holding or shipping ability or resistant to certain diseases that would make it highly desirable for certain locations or uses.

SEED SOURCES

Cultivar or Line	Lot Number	Source
Ambrosia Hybrid	--	W. Atlee Burpee Co., Philadelphia, PA.
Ball 1776 Hybrid	410681	Geo. J. Ball, Inc., West Chicago, IL.
Burpee Hybrid	6137	W. Atlee Burpee Co., Philadelphia, PA
Castlex 5003	118	A.L. Castle, Inc., Morgan Hill, CA.
Castlex 5004	119	A.L. Castle, Inc., Morgan Hill, CA.
Classic Fl Hybrid	--	R.L. Holmes Seed Co., Canton, OH.
Earlidew	194	Stokes Seed, Inc., Buffalo, NY.
Earlisweet Hybrid	054-000	Peto Seed Co., Saticoy, CA.
Early Dawn Hybrid	559-163	Joseph Harris Co., Rochester, NY.
Eureka	41058-20105SSR	Northrup, King & Co., Minneapolis MN.
Gold Star Hybrid	--	Joseph Harris Co., Rochester NY.
Harper Hybrid	--	Stokes Seed, Inc., Buffalo, NY.
Imperial 45-S12	41129-62601	Northrup, King & Co., Minneapolis, MN.
Iroquois	--	Northrup, King & Co., Minneapolis, MN.
King Henry	41143-30200SSR	Northrup, King & Co., Minneapolis, MN.
Perfection	195	Stokes Seed, Inc., Buffalo, NY.
Roadside Fl Hybrid	035-001	Peto Seed Co., Saticoy, CA.
Saticoy Hybrid	--	Stokes Seed, Inc., Buffalo, NY.
Sugar Salmon	198	Stokes Seed, Inc., Buffalo, NY.
Summet Hybrid	WTK-102	Asgrow Seed Co., Orange, CN.
Star Headliner Hybrid	--	Otis S. Twilley Seed Co., Salisbury, MD.
IPC	6027	Joseph Harris Co., Rochester, NY.
G-25B	6007	Joseph Harris Co., Rochester, NY.
G-25VB	6017	Joseph Harris Co., Rochester, NY.
NK-1203	41267-20390SS	Northrup, King & Co., Minneapolis, MN.
XP-771	WTK-104	Asgrow Seed Co., Orange, CN.

TABLE 1.-- Harvest date, yield, grade, and fruit size of muskmelon, replicated trial, Green Springs - 1978.

Cultivar	First Harvest Date	Yield for period Aug. 7-17			Season Total Yield		
		Mktble Fruit			Mktble Fruit		
		Cwt/ A	Size (lb)	% culls	Cwt/ A	Size (lb)	% culls
Burpee	8-14	49.6	4.3	19.4	491.6	4.4	17.2
Ball 1776	8-14	33.1	4.2	0	470.4	4.2	16.7
Earlisweet	8-7	252.3	2.0	24.5	409.4	2.2	27.1
Early Dawn	8-9	286.3	4.9	16.3	528.5	5.6	24.6
Eureka	8-19	0	---	0	335.7	4.4	15.9
King Henry	8-15	0	---	33.0	312.2	3.5	30.4
Roadside	8-14	11.3	5.9	0	403.6	6.1	13.6
Summet	8-17	7.5	4.0	22.2	400.7	3.9	18.8
LSD .05 =		88.57	---	----	62.72	---	----

TABLE 2.--Harvest date, yield, grade, and fruit size of muskmelon observation trials, Green Springs - 1978

Cultivar	First harvest date	Yield for period Aug. 4-14			Season Total Yield		
		Mktble Fruit			Mktble Fruit		
		Cwt/ A	Size (lb)	% culls	Cwt/ A	Size (lb)	% culls
Castlex 5003	8-15	0	---	0	344.1	2.8	17.3
Castlex 5004	8-23	0	---	0	547.6	4.2	8.4
Earlidew	8-10	160.8	2.0	15.8	459.4	2.2	15.3
G-25 B	8-23	0	---	0	408.5	4.4	18.5
G-25 VB	8-14	29.3	5.0	35.2	565.4	5.3	22.9
Imperial 45-S12	8-23	0	---	0	384.8	3.1	21.3
IPC	8-23	0	---	0	413.8	4.2	26.6
NK-1203	8-4	149.5	5.1	20.9	395.8	4.9	30.9
Perfection	8-14	0	---	100.0	463.8	4.1	20.2
Sugar Salmon	8-14	21.5	3.7	81.9	122.2	2.6	75.2
XP-771	8-14	21.5	3.7	8.6	545.9	3.8	14.9

TABLE 3.--Harvest date, yield, grade, and fruit size of muskmelon, observation trial, Columbus - 1978.

Cultivar	First harvest date	Yield for period Aug. 4-14			Season Total Yield		
		Mktble Fruit		% culls	Mktble Fruit		% culls
		Cwt/ A	Size (lb)			Cwt/ A	
Ambrosia	8-10	77.8	3.8	0	333.4	3.8	7.9
Burpee	8-14	77.7	3.8	15.5	284.0	3.8	13.8
Ball 1776	8-10	65.0	3.2	13.5	268.9	2.9	17.2
Castlex 5003	8-14	11.0	3.8	25.5	152.7	2.8	22.2
Castlex 5004	8-14	0	---	0	246.2	2.9	6.8
Classic	8-14	14.5	5.0	0	230.8	3.3	4.4
Early Dawn	8-4	81.0	4.0	22.5	102.2	3.9	30.6
Gold Star	8-8	78.7	3.8	12.5	255.8	3.8	10.2
G-25B	8-14	0	---	0	100.7	2.5	41.2
G-25VB	8-14	9.2	3.2	0	308.7	4.4	8.4
Harper	8-10	141.4	3.0	20.8	254.7	2.7	19.5
Iroquois	8-14	15.1	5.2	0	307.8	4.1	12.2
IPC	8-14	41.8	4.8	0	322.3	4.3	11.0
Imperial 45-S12	8-14	6.1	2.1	57.1	72.0	2.4	24.9
King Henry	8-14	14.5	5.0	0	248.6	3.0	10.4
NK-1203	8-8	137.0	3.6	11.9	205.9	3.5	11.9
Saticoy	8-14	158.3	3.9	0	333.9	4.1	3.3
Star Headliner	8-10	90.0	3.9	9.9	313.6	3.6	9.4

TABLE 4.--Fruit quality characteristics of muskmelon - Columbus trials - 1978

Cultivar or Line	% Soluble Solids	Quality Ratings					Flesh Color
		Texture	Firmness	Flavor	Aroma		
Ambrosia	9.7	4	4	3	3	3	
Burpee	11.4	4	4	4	3	4	
Ball 1776	10.7	-	-	-	-	-	
Castlex 5003	9.7	2	4	3	3	3	
Castlex 5004	11.7	3	4	3	3	4	
Classic	11.3	4	4	4	3	4	
Early Dawn	11.5	-	-	-	-	-	
Gold Star	11.0	-	-	-	-	-	
G 25B	12.0	4	4	3	2	4	
G-25VB	13.5	3	4	2	3	5	
Harper	11.0	-	-	-	-	-	
Iroquois	11.7	3	4	4	3	5	
IPC	13.0	4	4	4	4	4	
Imperial 45-S12	11.6	4	4	3	3	2	
King Henry	10.3	2	5	2	3	3	
NK 1203	11.3	-	-	-	-	-	
Saticoy	12.7	-	-	-	-	-	
Star Headliner	10.3	-	-	-	-	-	

Soluble Solids = average of 3 refractometer readings from extracted juice on 3 different dates.

Quality Ratings = Texture: 5= desirable; 1 = offensive
 Firmness: 5 = very firm; 1 = soft
 Flavor: 5 = excellent; 1 = distasteful
 Aroma: 5 = desirable; 1 = undesirable
 Color: 5 = dark; 1 = light

TABLE 5.--Additional notes on fruit characteristics

Cultivar or Line	Notes
Burpee	Standard variety used in these studies; round, medium large, med-deep ribbing, med-light netting, med-large seed cavity
Ball 1776	Round, med-large size, med-deep ribbing, heavy netting, worthy of trial for main season crop
Castlex 5003	Oval, small size, no ribbing, heavy netting, susceptible to cracking, poor flavor, appears not adapted to Ohio
Castlex 5004	Oval, medium size, no ribbing, heavy netting, susceptible to cracking at stem end, appears not adapted to Ohio
Earlisweet	Round, small, slight ribbing, med. netting, early maturity, worthy of trial for roadside markets
Earlidew	Honey dew type, round, med-large size, no ribbing, scattered netting, worthy of trial in Ohio
Early Dawn	Long oval, med-large size, light ribbing, light netting, susceptible to soil rots
Eureka	Long oval, medium size, no ribbing, med-heavy netting
G 25 B	Round, med-large size, med. ribbing, light netting, cracks at stem end, appears not adapted to Ohio
G 25 VB	Oval, med-large size, med. ribbing, shallow netting, poor flavor, appears not adapted to Ohio
Imperial 45-S12	Long oval, medium size, no ribbing, heavy netting
IPC	Round, med-large size, med. ribbing, med. netting, thick flesh, worthy of trial
King Henry	Long oval, no ribbing, deep netting, med-large fruit, poor flavor, appears not adapted to Ohio
NK 1203	Oval, medium size, med. ribbing, med. netting, protruding stem end.
Perfection	Round, med-large size, slight ribbing, med. netting, not outstanding quality
Roadside	Round, very large size, deep ribbing, light netting, excellent flavor, worthy of trial for specialty market
Sugar Salmon	Long oval, medium size, med. netting, light netting, not adapted to Ohio
Summet	Round, med-large size, medium ribbing, light netting, worthy of trial
XP 771	Long oval, med-large size, med. ribbing, med. netting, cracks at stem end, appears not adapted to Ohio

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