Evaluating Oblong Seedless Watermelons in Missouri

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As the market for seedless watermelons continues to expand, there is increasing interest in oblong (long) seedless melons. Oblong melons are particularly desirable to the cut melon market where the long, cut slices are attractive to consumers. The objective of this trial was to evaluate nine oblong seedless (red flesh) watermelon cultivars for marketable yield and quality.

Methods:
Eleven cultivars of triploid watermelon seed were sown in 72 cell, protrays and transplanted (3 week old transplants) into field plots on May 25, 2003 at the University of Missouri Bradford Research and Extension Center. Each plot was approximately 20 feet long with 6 feet between rows. Each plant was spaced 4 feet apart within row and the end plant on each plot was planted to 'Charleston Elite', the pollenizor on black plastic mulch with drip irrigation. Prior to laying plastic and forming the raised bed for planting, 60 lbs. of N and 120 lbs. of P and K (acre equivalent rate) was broadcast incorporated. The remaining 70 lb. of N were applied via drip irrigation during the season. Plots were harvested August 10 and August 25, 2003. Each cultivar was weighed and a subsample evaluated for sugars, degree of seedlessness, and hollow heart. The round, seedless cultivars 'Cooperstown' and Tri-X Palomar were included in this trial for comparison.

Results:
August 2003 had extremely high temperatures with a fourteen-day period of temperatures above 90°F. This affected fruit size and vine cover. 'SXM 4016', 'Seedless Sangria', 'Revolution' and 'Banner' were the top four cultivars in marketable yield per acre. Contrary to expectations, many oblong seedless cultivars outyielded the round seedless cultivars (Table 1). All of these four cultivars had soluble solid (brix) levels above 11%, indicating good sugar levels. Hot, dry weather will often cause seedless melons to produce some colored seedcoats or seeds. In that respect, heat stress is effective in screening for degree of seedlessness. 'Banner' produced the largest number of colored seedcoats and even exhibited some hollow heart. With the exception of 'Freedom', 'Cooperstown' and 'Hazera 1032', brown seedcoats were observed in most sampled melons.

Table 1. Marketable yield and quality parameters for oblong seedless watermelons, Columbia, MO 2003

Cultivar	Seed Source	Total Marketable Yield (t/acre)[z]	Fruit/acre	°Brix[y]	Colored Seeds/ fruit[x]	Hollow Heart
Banner	Sunseeds	10.3	1815	11.8	5.0	Slight (1/8")
Cooperstown	Seminis	7.6	1512	11.9	0.0	None
Freedom	Sunseeds	9.7	1915	11.3	0.0	None
Hazera 1042	Hazera	6.8	1210	11.8	0.8	None
Hazera 1032	Hazera	6.5	1109	11.3	0.0	None
Revolution	Sunseeds	10.4	1815	11.7	2.3	None
Seedless Sangria	Syngenta	10.6	1915	11.0	0.3	None
SR 8026	Sunseeds	7.9	1411	11.2	0.5	Slight (1/8")
SXM 4016	Sunseeds	11.5	2017	11.6	3.0	None
TriX-Palomar	Novartis	7.7	1915	11.6	0.3	None
WX28	Wilhite	9.6	1512	10.0	2.0	None
LSD (0.05)		*6.1*	*894*	*1.0*	*2.2*	

[z]Yield is expressed as 66% seedless, 33% seeded, pollenizor per acre. (1210 seedless plants per acre).
[y]Brix is a measure of sugar. The higher the brix, the sweeter the melon.
[x]Number of colored seedcoats or seeds from subsampled fruit.