

Triploid Mini-Watermelon Variety Trial, 2003

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Introduction

Growers have considerable interest in triploid or seedless mini-watermelons. Seven triploid and two seeded mini-watermelon varieties were evaluated for performance under Kentucky conditions.

Materials and Methods

All varieties were sown in cell packs (72 cells/tray) on 25 April. Trays were placed on a bench with bottom heat in a warm greenhouse. The seedlings were counted to obtain a germination percentage. The seedlings were then thinned to one per cell, and the trays moved to a slightly cooler house. On 10 June, the plants were set into plastic-mulched beds using a water wheel setter. Each plot was 16 feet long, containing 9 plants, with 2 feet between plants within the row. Between row spacing was 10 feet. Each plot was replicated three times in a randomized complete block. Drip irrigation was used to irrigate and fertigate as needed.

Forty-five lbs N/A as ammonium nitrate was applied preplant. A total of 42 lbs N/A as ammonium nitrate was fertigated over seven applications throughout the season. A systemic insecticide, Platinum 2 SC, was applied with a sprayer as a drench to the base of each plant soon after planting, at the maximum rate of 8 fl oz/A. The foliar insecticides Sevin, Capture, and Pounce were also used. Fungicide sprays included foliar applications of fixed copper, Quadris, and Bravo. The leaves on the transplants had some unidentified bacterial lesions that were associated with cool wet weather. Fixed copper sprays and slightly drier weather cleared this problem up very quickly after the plants were set. The pre-emergent herbicide Curbit was applied between rows before vine coverage. One fruit from each replication was measured and evaluated for soluble solids, flavor, hollowheart, average seed number per fruit, and interior color.

Results and Discussion

Seed companies recommend planting mini-watermelons at half the spacing of normal watermelons to reduce fruit size and increase yield. Thus, plants were set 2 feet apart in the row with 10 feet between rows, or at 20 ft² per plant. Despite this higher density, watermelon size was larger than expected. A recent research report (Maynard and Sidoti, 2003) indicated that a more appropriate density may be 12.5 ft² per plant. Thus, next year's trial will be planted at a higher density.

Overall, watermelon quality was very good. However, the first harvest followed a rainy period and fruit flavor and sugar contents were reduced. Consequently, flavor was evaluated only in subsequent harvests.

Seedless Watermelons

The best performing mini-watermelons in this trial were Valdoria, Demi Sweet, Mini Seedless 618 and Liliput, which averaged 9.9, 10.8, 12.5 and 8.9 pounds, respectively (Table 1). All had high soluble solids, flavor ratings and had similar yields (Table 2). Liliput tended to have the lowest yield, but produced the smallest melons. These were very uniform in size. If the acceptable weight for a mini-watermelon is between 3 and 9 pounds, this variety had the most

acceptable weight. Demi Sweet had a Jubilee-type rind, which made it more eye appealing than the other varieties, which had black rinds.

Sunday Special was a very good melon, but at 15.3 lb was a little large to be considered a mini-melon (Table 1). Extazy also performed well, but it had an extremely firm flesh, similar to an apple in crispness. (Table 2). Surprisingly, Vanessa melons were mostly seeded.

Seeded Watermelons

Manilla and Situla were very similar (Table 1). Both had a large number of small black seeds and thin rinds (Table 2). Manilla was judged to be the better variety of the two because of its tougher rind and trend towards higher yield.

Literature Cited

1. D. N. Maynard and B. J. Sidoti. 2003. Florida Agricultural Expt. Sta. J. Series No. T-00637. Website (<http://gcrec.ifas.ufl.edu>).

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Table 1. Seeded and seedless mini-watermelon variety trial yield and fruit characteristics, Lexington, Ky., 2003.

Cultivar	Seed Source ¹	Germ.		Melon Shape	Days to Harvest	Yield (cwt./A) ³	Avg. No. Mkt. Fruit/ A	Avg. Wt/Fruit (lbs.)	Outsic
		Rate (%)	Melon Type ²						Measuremen
									Length (in.)
Sunday Special	SI	81	T	round	–	1242 a	8067	15.3	9.9
Extazy	SI	100	T	oval	80-85	1193 a	13229	9.1	9.1
Valdoria	SS	68	T	round	–	980 ab	9922	9.9	8.4
Demi Sweet	SI	86	T	round	85-90	948 ab	8793	10.8	9.0
Mini Seedless 618	SI	85	T	round	–	941 ab	7502	12.5	10.4
Liliput	SI	85	T	round	70	875 b	10003	8.9	8.1
Vanessa	SS	99	T	round	–	816 bc	7744	10.4	8.2
Manilla	EW	–	S	oval	55-60	504 cd	6211	8.1	9
Situla	EW	–	S	oval	55-60	448 d	6453	6.9	8.5

¹ See Appendix for seed company addresses.

² Melon Type S=Seeded, T=Tripliod (seedless).

³ Numbers followed by the same letter are not significantly different (Duncan Waller LSD P=0.05).

Table 2. Seeded and seedless mini-watermelon variety trial fruit characteristics, Lexington, Ky., 2003

Variety	Soluble Solids (%)	Flavor (1-5) ¹	Hollow-heart (1-2) ²	Thicknes (in.)	Seed No./fruit	Interior Color ³	Rind Type ⁴	Uniformity ⁵ (1-5)	Commen
Sunday Special	12.7	4.4	2.0	0.7	0.7	dk pnk	BK	3.2	Rind with black stripes.
Extazy	11.3	4.2	2.0	0.6	4.7	red	JU	3.7	Very tough rind, very firm internal fiber.
Valdoria	11.8	4.0	2.0	0.5	0.7	red	BK	3.5	Has a few small seed trace
Demi Sweet	12.8	4.6	1.7	0.6	3.0	red	DK JU	2.8	Attractive rind, has a few
Miniseedless 618	12.8	4.9	2.0	0.5	2.0	red	BK	3.2	Attractive rind.
Lilliput	11.8	4.5	2.0	0.5	1.3	red	BK	3.5	Firm flesh, some fiber thru tough seed traces.
Vanessa	11.1	3.0	2.0	0.4	na ⁶	dk pnk	BK	2.8	Seeded, slight sour taste.
Manilla	11.3	3.8	2.0	0.4	na	red/or	BK	4.0	Many small seeds, quick
Situla	11.6	3.8	2.0	0.4	na	red/or	DK JU	3.5	Many small seeds.

¹ Taste Rating 1= poor, 5=excellent.

² Hollow Heart Rating 1=hollow heart, 2=no hollow heart

³ Flesh Color dk=dark, pnk=pink, or = orange.

⁴ Rind Type JU=Jubilee, light green rind w/distinct, narrow, dark green stripes; BK=Black, solid dark green rind; DK=Dark green

⁵ Fruit Size Uniformity 1=poor, 5=excellent

⁶ na, not applicable