

Seeded and Seedless Watermelon Variety Trial

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Introduction

Seventeen triploid (seedless), and 10 seeded watermelon varieties were evaluated in this trial. One orange and several golden and yellow fleshed varieties were also included.

Materials and Methods

All varieties were sown in cell packs (72 cells/tray) on April 25. Trays were placed on a bench with bottom heat in a warm greenhouse. Once seeds had germinated, 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 June 10, the watermelon plants were set into raised, plastic mulched beds using a water wheel setter. Each plot was 24 feet long, containing 6 plants, with 4 feet between plants within the row. Between row spacing was 10 feet. Each plot was replicated 4 times in a randomized complete block. Drip irrigation was used to irrigate and fertigate as needed.

Fifty lbs N/A as ammonium nitrate was applied preplant. A total of 47 lbs N/A as ammonium nitrate was fertigated over 7 applications throughout the season. Irrigation was halted about 4 weeks before harvest to increase melon sugar levels.

A systemic insecticide, Admire 2F, was applied as a drench to the base of each plant soon after planting, at the rate of 24 fl oz per acre. The foliar insecticide Sevin was used for insect control. Fungicide sprays included a soil applied pre-bedding treatment of Ridomil Gold, and a foliar application of Bravo and Quadris fungicides. 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

Overall, watermelon quality was excellent, but yields were considerably lower compared to previous years. Extreme heat at the time of second set may have reduced fruit set and yields. There were very little fungal, viral or insect problems, but morningglory became a problem later in the season. The low seed germination rates were probably accentuated by excess moisture following seeding.

Seedless Watermelons. Triple Prize was one of the best performing seedless varieties in this trial. Revolution, Freedom, HSR 2908, Cooperstown and Tri-X Shadow also had excellent quality. HSR 2908 has a very attractive dark Jubilee type rind. Trillion had a very high yield, but it's flavor was not as good as we would like. Millionaire and Super Seedless 7167 had

unacceptable seed numbers. Treasure Chest was the best seedless yellow watermelon. US 3281, the only orange fleshed seedless watermelon, was very good. However, it had a fair amount of hollowheart. This could have been accentuated by the higher level of nitrogen fertilizer used in this study.

Seeded Watermelons. Sangria, Royalty, and Stars N' Stripes were all excellent seeded red fleshed watermelons. Summer Gold and AU Golden Producer were both large, excellent quality golden-fleshed seeded watermelons; however, Summer Gold had more hollowheart than we would like to see.

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Table 1. Seeded and seedless watermelon variety trial yield and fruit characteristics, Lexington, Ky., 2002.

Cultivar	Seed Source	Germ.		Melon Shape	Days to Harvest	Yield (cwt./A) ²	Avg. No. Mkt. Fruit/ A	Avg. Wt/Fruit (lbs.)	No. Fruit/A <10 lbs.	Outside Measurements	
		Rate (%)	Melon Type ¹							Length (in.)	Width (in.)
Sangria	RG	88	S	elongate	85	833.1 a	4300	19.5	0	17.6	8.3
Trillion	RU	94	T	round	90	828.3 ab	6100	13.5	0	10.4	8.4
Royalty	RU	90	S	elongate	85	807.6 ab	4000	20.0	91	15.0	9.4
Millionaire	HM	65	T	round	92	805.6 ab	5800	14.0	91	11.3	9.2
Stars N' Stripes	SI	100	S	elongate	85	788.6 ab	4500	17.6	0	18.3	8.8
Summer Flavor 800	AC	47	S	elongate	85	763.0 ab	3800	20.3	0	16.5	9.5
Triple Prize	RU	85	T	round	82	756.3 ab	5400	13.9	0	10.5	9.6
Emperor	RU	96	S	elongate	82	725.3 ab	3500	21.0	45	15.3	10.2
Super Seedless 7167	AC	44	T	oval	85	723.7 ab	5400	13.4	0	11.5	9.2
Treasure Chest	RU	38	T, Y	round	80	711.7 ab	6200	11.4	0	8.5	9.1
Delta	RU	91	S	elongate	82	696.7 ab	3200	22.0	0	14.2	9.8
US 3281	US	60	T, O	round	85	694.2 ab	4900	14.0	45	10.6	10.4
Summer Gold	SW	100	S, G	elongate	83	690.4 ab	2700	25.8	0	15.3	10.1
Revolution	ST	69	T	elongate	85	683.8 ab	4400	15.5	45	13.7	9.2
AU Golden Producer	RU	80	S, G	round	90	674.5 ab	2800	24.0	0	12.3	11.2
Freedom	ST	40	T	elongate	85-90	659.7 ab	4200	15.6	0	13.2	9.1
HSR 2908	HL	39	T	round	87	657.9 ab	4700	14.0	91	9.7	9.4
Cooperstown	RU	16	T	round	85	657.0 ab	4600	14.3	0	10.8	9.6
Imperial	RU	88	S	oval	85	650.5 ab	4200	15.4	0	12.3	6.6
Tri-X-Shadow	SW	51	T	round	89	644.3 ab	5200	12.3	0	10.8	8.7
HMX 8914	HM	33	T	round	85	634.9 ab	4100	15.4	0	10.7	10.2
Ultra Cool	SI	12	T	round	75	630.4 ab	4700	13.4	45	10.0	9.6
Amarillo	ST/RU	38	T, Y	round	80	590.1 ab	5400	10.9	182	10.0	9.6
Talladega	SI	14	T	round	83	586.3 bc	4300	13.6	45	10.8	9.2
HSR 2914	HL	25	T	round	85	582.3 cd	4700	12.5	0	10.9	9.3
Sugarheart	SI	47	T	round	85	508.2 de	3800	13.5	0	11.1	9.4
Golden Crown Hyb.	JU	88	S	oval	78	307.2 e	4700	6.5	227	9.5	7.1

¹Melon Type S=Seeded, T=Tripliod (seedless); all varieties had red flesh color unless otherwise noted as: G=gold, O=Orange, Y=yellow.

² Numbers followed by the same letter are not significantly different (Duncan Waller LSD P=0.05). Yield is based on all melons >10 lbs in hundred lbs per acre.

Table 2. Seeded and seedless watermelon variety trial fruit characteristics, Lexington, Ky., 2002

Variety	Solids (%)	Flavor (1-5) ¹	Heart (1-2) ²	Thick. (in.)	Seed No./fruit	Interior Color ³	Rind Type ⁴	Comments
Sangria	11.5	4.5	1.8	0.7	na	red	AS	Consistent high quality, some tapered at one end.
Trillion	10.4	3.4	2.0	0.6	5.3	pk	CS	Seeds are very tiny.
Royalty	11.3	4.4	2.0	0.7	na	pk red	RS	Thin rind, some fibers in the flesh.
Millionaire	10.4	3.3	2.0	0.7	24.3	pk red	CS	Seeds are very tiny.
Stars N' Stripes	10.6	4.7	1.8	0.7	na	pk red	CS	Attractive exterior and interior, flesh is medium firm with good flavor.
Summer Flavor 800	12.0	4.2	1.5	0.7	na	red	RS	Attractive exterior and interior, nice flavor.
Triple Prize	10.6	4.0	1.8	0.9	4.3	red	dk CS	Nice flavor.
Emperor	11.0	4.1	1.8	0.7	na	pk red	CS	Large melon.
Super Seedless 7167	10.6	3.7	2.0	0.7	17.8	pk red	RS	Ground spot dark yellow when ripe, attractive red interior.
Treasure Chest	9.6	3.6	1.8	0.7	1.3	br yl	CS	Tough rind, very attractive, some dark seed traces.
Delta	11.7	4.2	2.0	0.6	na	red	CS	Attractive exterior and interior, thin rind, nice red interior.
US 3281	10.7	3.9	1.3	0.9	4.3	orange	CS	Very attractive, light seed traces, good color, hollow heart, fibers in fruit.
Summer Gold	11.1	4.4	1.3	0.7	na	gld	RS	Attractive interior and exterior, very large melon, pleasant, sweet flavor.
Revolution	10.9	4.3	2.0	0.7	2.8	br red	RS	Attractive dark green rind, firm flesh.
AU Golden Producer	11.3	4.4	1.8	0.7	na	gld	RS	Attractive interior and exterior, very large melon, thin rind at blossom end.
Freedom	11.3	4.6	1.8	0.7	3.8	red	dk JU	Attractive melon, attractive interior.
HSR 2908	11.6	4.5	2.0	0.7	2.3	pk	dk JU	Attractive dark green, tough rind, firm flesh, excellent flavor.
Cooperstown	10.9	4.5	2.0	0.6	5.3	red	CS	Rind stripes are speckled and fragmented, excellent bright red interior.
Imperial	10.3	4.1	2.0	0.5	na	br red	RS	Attractive exterior and interior color.
Tri-X-Shadow	10.4	4.6	1.5	0.6	0	pk red	BK	Attractive exterior and interior, excellent flavor.
HMX 8914	10.9	4.4	2.0	0.7	5.7	pk red	CS	Attractive exterior and interior. pleasant flavor. Attractive exterior and interior.
Ultra Cool	10.6	3.7	1.7	0.7	0.7	pk red	RS	
Amarillo	10.0	3.5	1.5	0.7	3.3	br yl	JU	Attractive exterior and interior, seeds are grey.
Talladega	10.3	4.0	1.8	0.7	1.8	pk red	CS	Nice red interior.
HSR 2914	11.6	4.2	2.0	0.6	1.8	pk red	dk JU	Very attractive exterior and interior, firm flesh, excellent flavor.
Sugarheart	10.4	3.9	2.0	0.7	0.5	dk pk	CS	
Golden Crown Hyb.	9.3	3.2	1.8	0.3	na	dk red	yellow	Very thin, fragile rind splits easily, ripens before tendril dies.

¹ Taste Rating 1= poor, 5=excellent.

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

³ Flesh Color lt=light, dk=dark, pk=pink, br=bright, yl=yellow, gld=gold

⁴ Rind Type AS= Allsweet, medium green rind w/dark green, broad mottles stripes; JU= Jubilee, light green rind w/distant, narrow, dark green stripes; BK=Black, solid dark green rind; CS= Crimson Sweet, light green rind w/mottled, dark green stripes; RS= Royal Sweet, light green rind w/wide, mottled, dark green stripes.