

Seedless Watermelon Cultivar Trials for Southwestern Indiana, 2003

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Seedless watermelons continue to generate both grower and consumer excitement, and in many urban markets around the US the percentage of seedless melons purchased has risen considerably. Indiana remains a strong producer of seedless (triploid) watermelons, and since 1994, we have conducted extensive annual variety trials for seedless varieties. This trial, along with the seeded (diploid) watermelon variety trial provides an objective and independent comparative assessment of new watermelons for the commercial industry. This year's study included 24 seedless watermelons, including two yellow fleshed types and one orange fleshed variety.

Methods:

Seeds of 24 seedless watermelon cultivars were sown in the greenhouse on April 18 and transplanted on May 15 into a randomized complete block design with three replications. Charleston Elite was used as a pollinator and planted in every third row and in the guard rows. Plots were single rows 55 ft. long, centered eight ft. apart, and covered with 4 ft. black plastic mulch. Each plot had 11 plants five feet apart. The recommendations in the Midwest Vegetable Production Guide for Commercial Growers (ID-56, 2002) were followed for fertilization, weed, disease and insect control. Plots were harvested on August 6, 13, 19, and 27. The data was analyzed using the Statistical Analysis Software (SAS) package (SAS Institute, Cary, NC). Trickle irrigation was used as necessary to provide ample water to the field plots.

Results and Conclusions:

Yields and Quality. Yields ranged from 24.7 to 37.9 tons/acre with 2673 to 5000 fruit/acre harvested across all entries (Table 1). The average weight of seedless fruit was down this year to 16.0 lbs/fruit with a range of 12.1 to 21.5 lbs/fruit. Smaller weight per fruit led to the higher number of fruit per acre in general. Highest yielding in this trial were: SR 8021, Trillion, Tri-X Palomar, AfternoonDelight, and 7167. Most of the fruit in the trial this year were oval and medium sized. Notable melon varieties exhibiting high soluble solids include Butterball, 7167, and Amarillo. This year two yellow fleshed varieties, Butterball and Amarillo, and one orange fleshed watermelon, Sunny, were submitted. Seedless watermelons should be a part of your melon production strategy as long as you have a market that will purchase the fruit at a higher price than the seeded watermelons.

Table 1. Comparison of Yield and Quality of Seedless Watermelon in Southwestern Indiana, 2003.

Cultivar	Seed Source	Yield Cwt./lb/A	Yield ^r Tons/A	Ave fruit		No./A	Fruit weight lbs	%SS ^s	Flavor ^t	Uniformity ^u	Rind ^v	Size ^w	Shape ^x	Flesh ^y	Degree of Seedlessness ^z
SR 8021	SS	758.5	37.9	a	4851	15.5	10.0	3	3	2	M	M	Ov	DP	3
Trillion	AC	749.6	37.5	ab	4422	16.9	11.0	3	3	2	Th	M	Ob	P	3
Tri-X Palomar	RG	732.6	36.6	abc	5000	14.7	10.0	3	3	3	Th	M	Rd	R	3
AfternoonDelight	DP	715.8	35.8	abcd	4505	15.9	11.0	2	2	3	M	S-M	Ov	LR	2
7167	AC	708.2	35.4	abcde	4356	16.2	11.4	3	3	3	Th	M	Ov	R	2
Olympia	SM	698.6	34.9	abcdef	4092	17.1	11.2	3	3	3	Th	M	Ov	DR	3
Sweet Delight	RG	696.8	34.8	abcdef	3927	17.8	10.0	4	4	3	M	M	Ob	R	3
5244	AC	695.8	34.8	abcdef	4587	15.2	10.0	2	2	2	M	S-M	Ov	R	2
Sweet Eat'n	DP	686.4	34.3	abcdef	4402	15.6	12.0	3	3	2	M	M	Ov-Ob	R	2
Sunny	WI	685.6	34.3	abcdef	3498	19.6	11.2	4	4	2	M	L	Ob	O	2
Sugar Slice	WI	676.0	33.8	abcdef	4323	15.6	10.6	4	4	3	M	S-M	Rd	R	2
Wrigley	SM	659.5	33.0	abcdef	4188	15.7	10.0	4	4	3	Th	S	Rd	R	3
SR 8020	SS	658.7	32.9	abcdef	4224	15.5	9.0	2	2	3	M	S-M	Ob	R	3
Sweet Slice	WI	657.6	32.9	abcdef	4208	15.6	10.8	3	3	2	Th	M	Ov	R	3
7177	AC	657.0	32.9	abcdef	4125	15.9	10.6	3	3	2	M	S-M	Rd-Ov	DP	3
7187	AC	656.6	32.8	abcdef	4109	16.0	10.0	3	3	2	Th	M	Ov	R	3
Butterball	DP	652.4	32.7	abcdef	4554	14.3	13.0	2	2	3	M	M	Rd	R	2
4502	SW	624.5	31.2	bcdef	3696	16.8	11.0	3	3	2	M	M	Ov	R	3
WT 02-26	DP	618.1	30.9	cdefg	3795	16.3	10.4	2	2	2	M	M	Rd-Ov	LR	2
HSR 3005	HL	597.5	29.9	defg	3894	15.4	10.6	5	5	3	M	M	Ov	R	2
Tri-X 313	RG	583.8	29.2	efg	3544	16.5	9.4	3	3	2	M	M	Ov	R	2
WX 28	WI	575.4	28.8	fg	2673	21.5	10.0	3	3	3	M	L	Ob	R	3
Imagination	RG	573.9	28.7	fg	4422	13.0	9.0	3	3	3	T	S	Rd	R	1
Amarillo	RG	494.8	24.7	g	4092	12.1	11.4	3	3	3	T	S	Rd	Y	2
Grand mean		658.9	32.9		4145	16.0									
LSD (5%)		128.4	6.4		727	1.2									
C.V. (%)		11.9	11.9		11	4.5									

Randomized complete block design: 3 replications.

^r Yield wt. (tons) averages spanned by the same letter are not significantly different.

^s %SS = Percent soluble solids: the higher the value, the greater the amount of total sugar.

^t Flavor (1 to 5): 1=very poor, 3=acceptable, 5=great.

^u Uniformity (1 to 3): 1=lacks uniformity/variable, 2=average, 3=very uniform.

^v Rind: T=thin, M=medium, Th=thick.

^w Size: S=small, M=medium, L=large, VL=very large.

^x Shape: Rd=round, Ov=oval, Ob=oblong.

^y Flesh: LR=light red, RO=red-orange, R=red, LP=light pink, P=pink, DP=dark pink, Y=yellow.

^z Degree of Seedlessness (1 to 3): 1=brown of black seeds present, 2=white seeds present, 3=no seeds present.