

## Seedless Watermelon Cultivar Trials for Southwestern Indiana, 2005

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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 28 seedless watermelons.

### Methods:

Seeds of 28 seedless watermelon cultivars were sown in the greenhouse on April 20 and transplanted on May 16 into a randomized complete block design with three replications. Royal Sweet was used as the pollinator and planted in every third row and in the guard rows. Plots were single rows 48 ft. long, centered eight ft. apart, and covered with 4 ft. black plastic mulch. Each plot had 12 plants four feet apart. The recommendations in the Midwest Vegetable Production Guide for Commercial Growers (ID-56, 2005) were followed for fertilization, weed, disease and insect control. Trickle irrigation was used as necessary to provide ample water to the field plots. Plots were harvested on July 18, 26, August 5, 10, and 17. The data were analyzed using the Statistical Analysis Software (SAS) package (SAS Institute, Cary, NC). Yield data and quality data for all varieties in the trial are presented in Tables 1 and 2.

### Results and Conclusions:

Yields and Quality. Yields ranged from 29.2 to 44.8 tons/acre with 2373 to 4030 fruit/acre harvested across all entries (Table 1). The average weight of seedless fruit was down this year to 22.9 lbs/fruit with a range of 17.7 to 28.4 lbs/fruit. Highest yielding in this trial were: ACX 4674, Constitution, Liberty, Sweet Delight and Tri-X Palomar. Most of the fruit in the trial this year were round to oval and medium sized. The melon varieties with the highest soluble solids were 2908 and ACX 5624. 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 of Seedless Watermelon in Southwestern Indiana, 2005.

Cultivar	Seed Source	Yield Cwt/Acre	Yield <sup>z</sup> Tons/Acre		Fruit No./Acre	Average Fruit Weight
ACX 4674	AC	896.0	44.8	a	3804	23.5
Constitution	NH	858.6	42.9	ab	3880	22.2
Liberty	NH	838.4	41.9	abc	3729	22.6
Sweet Delight	RG	822.1	41.1	abc	3352	24.7
Tri-X Palomar	RG	812.7	40.6	abc	3578	22.7
ACX 5624	AC	811.9	40.6	abc	3239	25.1
Gypsy	HM	807.4	40.4	abc	3654	22.1
VAGABOND	HM	794.5	39.8	abc	3691	21.5
5244	AC	792.9	39.7	abc	3277	24.2
7167	AC	790.1	39.5	abc	3239	24.3
RWT 8145 Matrix	RG	787.5	39.4	abc	2900	27.4
ACX 5534	AC	785.3	39.3	abc	3277	24.2
XWT 8706	SK	784.6	39.2	abc	3352	23.4
Sweet Eat'n	DP	784.4	39.2	abc	3428	22.9
1031	SM	781.0	39.0	abc	3126	25.0
Cooperstown	SM	767.1	38.4	abcd	3315	23.2
Tri-X 313	RG	762.0	38.1	abcd	3277	23.4
XP 6279	SM	761.7	38.1	abcd	4030	18.9
Ruby	HL	749.4	37.5	abcd	3390	22.0
Harmony	SW	747.9	37.4	abcd	3390	22.0
RWT 8129	RG	745.2	37.3	abcd	3013	24.8
RWT 8166	RG	728.7	36.4	abcd	3465	21.1
2908	SW	714.1	35.7	abcd	3202	22.3
Lamar	HL	683.5	34.2	bcd	3767	18.3
Revolution	NH	674.5	33.7	bcd	2373	28.4
Imagination	RG	662.8	33.1	cd	3729	17.7
RWT 8181	RG	657.0	32.9	cd	2787	23.4
5335	SM	584.2	29.2	d	2976	19.6
Grand Mean		763.8	38.2		3366	22.9
L.S.D. (5%)		192.7	9.6		853	2.1
C.V. (%)		15.4	15.4		15	5.5

Randomized complete block design: 3 replications.

<sup>z</sup> Yield wt. (tons) averages spanned by the same letter are not significantly different.

Table 2. Comparison of Quality of Seedless Watermelon in Southwestern Indiana, 2005.

Cultivar	% SS <sup>z</sup>	Flavor <sup>y</sup>	Uniformity <sup>x</sup>	Length <sup>w</sup>	Width <sup>v</sup>	Ratio <sup>u</sup>	Shape <sup>t</sup>	Flesh <sup>s</sup>	Degree of Seedlessness <sup>r</sup>	Pressure <sup>q</sup>
ACX 4674	12.0	2	2	10.0	8.5	1.2	Ov	R	3	0.0
Constitution	11.0	4	2	9.5	8.5	1.1	Rd-Ov	DP	3	0.0
Liberty	11.0	4	3	11.5	9.0	1.3	Rd-Ov	DP	3	1.4
Sweet Delight	12.0	3	3	10.0	9.0	1.1	Rd-Ov	R	2	1.4
Tri-X Palomar	12.0	4	3	9.0	8.5	1.1	Rd	DP	3	0.0
ACX 5624	14.0	3	3	12.0	10.0	1.2	Rd	P	3	1.5
Gypsy	12.0	3	3	10.0	9.0	1.1	Rd	DP	3	0.0
VAGABOND	12.0	4	2	12.0	9.0	1.3	Ov	R	3	1.7
5244	13.0	3	3	19.0	8.0	2.4	Rd-Ov	P	3	1.6
7167	12.0	3	3	9.0	8.5	1.1	Ov	P	3	0.0
RWT 8145 Matrix	11.0	4	3	14.0	8.0	1.8	Ov	R	3	1.5
ACX 5534	13.0	3	3	10.5	9.0	1.2	Ov	LP	3	2.0
XWT 8706	12.0	3	3	9.5	9.0	1.1	Rd	DP	3	0.0
Sweet Eat'n	12.0	4	3	12.0	9.0	1.3	Ov	R	3	0.0
1031	11.0	4	3	10.5	8.5	1.2	Rd-Ov	R	3	0.9
Cooperstown	12.0	4	3	10.5	9.0	1.2	Ov	DP	3	0.9
Tri-X 313	12.0	4	3	11.0	8.5	1.3	Ov	P	2	0.6
XP 6279	13.0	4	3	9.5	9.0	1.1	Rd	R	3	0.0
Ruby	11.0	4	2	12.0	9.0	1.3	Ov	R	3	0.0
Harmony	12.0	3	3	10.5	8.5	1.2	Ov	R	3	1.4
RWT 8129	13.0	3	2	10.0	9.0	1.1	Ocv	R	3	2.3
RWT 8166	12.0	3	2	9.5	8.0	1.2	Rd	R	3	0.0
2908	14.0	4	3	9.5	9.5	1.0	Rd	R	2	1.5
Lamar	12.0	3	3	9.5	8.5	1.1	Rd	R	3	0.9
Revolution	11.0	3	3	13.5	8.0	1.7	Ov	R	3	1.5
Imagination	11.0	4	2	9.5	9.0	1.1	Rd	DR	3	1.0
RWT 8181	13.0	4	3	14.0	10.5	1.3	Rd-Ov	R	3	1.9
5335	10.0	3	2	10.0	8.5	1.2	Ov	R	3	0.0

Randomized complete block design: 3 replications.

<sup>q</sup> %SS = Percent soluble solids: the higher the value, the greater the amount of total sugar.

<sup>r</sup> Flavor (1 to 5): 1=very poor, 3=acceptable, 5=great.

<sup>s</sup> Uniformity (1 to 3): 1=lacks uniformity/variable, 2=average, 3=very uniform.

<sup>t</sup> Length: Length of fruit from stem attachment end to blossom end (in)

<sup>u</sup> Width: Width of fruit as measured following a longitudinal cut from stem end to blossom end (in)

<sup>v</sup> Ratio: Length divided by the width of the fruit

<sup>w</sup> Shape: Rd=Round, Ov=Oval, Ob=Oblong.

<sup>x</sup> Flesh: LR=light red, RO=red-orange, R=red, LP=light pink, P=pink, DP=dark pink, Y=yellow.

<sup>y</sup> Degree of Seedlessness (1 to 3): 1=brown or black seeds present, 2=white seeds present, 3=no seeds present.

<sup>z</sup> Pressure: Pressure test reading in pounds per square inc