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Midwest Triploid Watermelon Variety Trial in Southwest Indiana — 2015

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Introduction

Watermelon is one of the most important specialty crops in Indiana. In 2014, the watermelon industry accounted for 50% of the production value of all the fresh market vegetables in Indiana. Production and planted area of watermelons in Indiana ranked fifth and sixth in the United States, with the numbers increased slightly in 2014 compared to 2013 and 2012 (USDA 2015).

Variety selection based on yield, disease resistance, and fruit quality still remain the key decisions in watermelon production. The objective of this study is to provide watermelon producers in the Midwest with regional and updated information about triploid watermelon varieties.

Materials and Methods

The variety trial included 35 triploid watermelon varieties. Seed sources of the varieties are provided in Table 1. 'SP-6' was used as the pollenizer. All seeds were planted in 50-cell black seeding flats (T.O. Plastics, Clearwater, MN) filled with peat-based potting media (Metro-Mix 360, a mixture of sphagnum peat moss, coarse perlite, bark ash, starter fertilizer, and dolomite). Seeds of triploid watermelons were planted on April 14, and pollenizers were planted on April 16. Transplants were grown in greenhouses at the Southwest Purdue Agricultural Center (SWPAC). Plants were transplanted to the field on May 14, 2015.

The soil type of the field used in this trial is Ade loamy find sand. The previous crop (2014) was wheat double crop soybeans. Rye strips were planted every nine rows to prevent wind damage. Plants were grown in raised beds covered with black plastic mulch. Drip tape with a 12-inch emitter spacing and flow rate of 0.22 gpm/100 feet were used for irrigation. Bed spacing and in-row spacing were 8 and 4 feet, respectively. Pollenizers were interplanted between every two triploid plants in the same row. The experimental design was a randomized complete block design with three blocks and 12 triploid watermelons and six pollenizers per plot.

Fertilizers at the rate of 300 lb/acre urea (46-0-0), 200 lb/acre potassium chloride (0-0-60), 100 lb/acre diammonium phosphate (18-46-0), 7 lb/acre boron 14.3%, and 200 lb/acre pelletized lime were pre-plant broadcast applied. During transplanting, each plant received approximately one cup of starter fertilizer solution (Miracle-Gro, 4.7 grams per gallon water). Pests were managed using recommendations from Melcast (turfcast.ceris.purdue.edu/melcast.php) and the *Midwest Vegetable Production Guide for Commercial Growers* (Egel et al., 2015).

Plants were harvested three times on July 28, August 4 and August 13. Only marketable fruit were harvested from each plot, and weighted individually. Nine fruit of each variety were collected during peak harvest for fruit quality measurements. Fruit size, seed cavity size, rind thickness, degree of seedlessness, total soluble solids, flesh firmness, and hollow heart severity were recorded. Analysis of variance was performed using the Proc Mixed procedure of SAS. Fisher's least significant difference test ($\alpha = 0.05$) was conducted for multiple comparisons of different measurements among triploid watermelon varieties.

Results

The top yielding variety was 'Premont' (74,722 lb/acre), which was significantly higher than 31 of the 35 varieties. Corresponding to the highest weight per acre, 'Premont' also produced the greatest number of fruit per acre. 'Traveler' (66,044 lb/acre), 'KB 12106' (64,616 lb/acre) and 'Exclamation' (57,211 lb/acre) also exhibited numerically higher yield compared with the other varieties (Table 2).

Although 'Premont' and 'Traveler' had high yield potentials, total soluble solids (TSS) of 'Premont' (10.28 °Brix) and 'Traveler' (10.83 °Brix) were lower compared with most other varieties (Table 3). TSS of 'KB 12106' and 'Exclamation' were 11.67 and 11.33 °Brix, respectively, which ranked in the middle of the evaluated varieties. 'SV7018WA' and 'Poseidon' had TSS above 12.5 °Brix, and their yields were also ranked among top ten of the evaluated cultivars. In addition to the aforementioned varieties, 'Kingman,' 'Triple Crown,' 'UGR 131712,' and 'WDL 0409' also had similar weight per acre compared with the industry standard variety, 'Fascination'.

Fusarium wilt of watermelon was observed in the plots where the variety trials were conducted in 2015. The varieties were rated for severity of Fusarium wilt on July 19. Varieties exhibited significant differences in susceptibility to Fusarium wilt (Table 4). 'Premont' and 'Traveler' had the lowest disease severity values, which may help explain the high yields of these two cultivars. Variety 'SV7018WA' had one of the lowest disease severity values and yet one of the highest yields.

Ratings of hollow heart severity were generally low in 2015. Of the evaluated nine fruit per variety, 15 of 35 varieties did not have any fruit showing hollow heart symptoms. No significant differences in hollow heart severity and flesh firmness among evaluated varieties were observed in 2015 (Table 3).

Regardless of varieties, most of the fruit were picked on the third harvest date (August 13) (Figure 1). Among the top producing varieties, 'Exclamation' and 'KB 12106' had relatively higher yield on the first two harvests (Figure 1). No significant difference in mean fruit weight was observed in 2015. However, analyzing fruit weight distribution showed that about 30% of 'Traveler' fruit was in the weight category of 12-14 lb, more fruit in this weight category than the other top producing varieties (Figure 2).

Literature Cited

Egel, D., R. Foster, E. Maynard, et al. 2015. *Midwest Vegetable Production Guide for Commercial Growers*, 2015 (ID-56). Purdue University.

United States Department of Agriculture, 2015. National Agricultural Statistics Service. Vegetables 2014 Summary. www.clientadvisoryservices.com/Downloads/VegeSumm-01-29-2015.pdf.

Acknowledgements

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Table 1. Varieties, seed companies, and comments for SWPAC triploid watermelon trial, 2015.

Triploid variety	Seed source	Comments
Captivation	Syngenta	
Cut Above	Clifton Seed	
Exclamation	Syngenta	
Fascination	Syngenta	
KB 10770	Laura Brown	
KB 12106	Laura Brown	
Kingman	Sakata Seed	
Lucille	Origene Seed	
Maxima	Origene Seed	
Neptune	Seedway	
NUN 31208	Nunhems/Bayer	
NUN 6177	Nunhems/Bayer	
NUN 7197	Nunhems/Bayer	
Poseidon	Seedway	
Premont	Clifton Seed	
Razorback	Highmark Seed	
Savannah	Origene Seed	
SV0241WA	Seminis	
SV0258WA	Seminis	
SV2757WA	Seminis	
SV7018WA	Seminis	
SV7112WA	Seminis	
SV8298WA	Seminis	
Sweet Dawn (WDL 1419)	Syngenta	
Talca	Origene Seed	
Traveler	Harris Moran	
Triple Crown (organic)		SWPAC entry
Tri-X 313	Syngenta	
Tri-X Palomar		SWPAC entry
UGR 131712	United Genetics	
Unbridled	Sakata Seed	
Warrior (Nun1009)	Nunhems/Bayer	
WDL 0409 (Sugar Fresh)	Syngenta	
Wolverine	Highmark Seed	
7015	Highmark Seed	

Table 2. Total harvest of triploid watermelon varieties, 2015.

Triploid Variety	Weight per Acre (lb)		Number of Fruit per Acre		Mean Fruit Weight (lb)
Captivation	38,955	defghij[z]	2,987.2	cdefghi	12.8
Cut Above	44,354	defgh	3,516.6	bcdefg	12.4
Exclamation	57,211	abcd	3,856.9	abcde	14.8
Fascination	49,552	bcdefg	3,440.9	bcdefg	14.3
KB 10770	45,745	cdefgh	3,365.3	cdefgh	13.6
KB 12106	64,616	abc	4,764.4	ab	13.6
Kingman	50,483	bcdefg	3,516.6	bcdefg	14.2
Lucille	42,727	defghi	3,289.7	cdefgh	12.7
Maxima	14,770	lm	1,058.7	m	20.6
Neptune	31,446	ghijklm	2,457.8	fghijkl	12.6
NUN 31208	45,980	bcdefgh	3,478.7	bcdefg	13.1
NUN 6177	48,771	bcdefg	3,440.9	bcdefg	14.1
NUN 7197	35,077	efghijk	2,835.9	defghij	12.1
Poseidon	50,213	bcdefg	3,781.2	abcdefg	12.8
Premont	74,722	a	4,991.2	a	15.0
Razorback	27,666	hijklm	2,041.8	hijklm	23.1
Savannah	33,975	efghijkl	2,760.3	defghijk	12.1
SV0241WA	20,200	jklm	1,588.1	jklm	12.8
SV0258WA	17,276	klm	1,399.1	klm	10.9
SV2757WA	13,088	m	1,172.2	lm	10.7
SV7018WA	52,310	bcdef	3,819.0	abcdef	13.2
SV7112WA	23,038	ijklm	1,777.2	ijklm	12.4
SV8298WA	32,865	fghijklm	2,571.2	efghijk	12.7
Sweet Dawn	43,079	defghi	2,987.2	cdefghi	14.3
Talca	35,101	efghijk	2,420.0	ghijklm	13.5
Traveler	66,044	ab	5,104.7	a	12.9
Triple Crown	52,191	bcdef	4,272.8	abc	12.4
Tri-X 313	39,339	defghij	3,025.0	cdefghi	12.8
Tri-X Palomar	48,842	bcdefg	3,894.7	abcde	12.2
UGR 131712	53,100	bcde	4,083.7	abcd	12.9
Unbridled	38,834	defghij	2,987.2	cdefghi	12.4
Warrior	45,969	bcdefgh	3,100.6	cdefghi	14.5

Continued on next page

Table 2 *(continued)*

Triploid Variety	Weight per Acre (lb)	Number of Fruit per Acre	Mean Fruit Weight (lb)
WDL 0409	53,943 bcde	3,819.0 abcdef	14.0
Wolverine	38,101 defghij	2,949.4 cdefghij	11.7
7015	38,834 defghij	3,251.9 cdefgh	12.0
Significance[y]	***	***	NS

[z] Means within a column followed by the same letter are not significantly different according to Fisher's least significant difference test at $P \leq 0.05$.

[y] NS, ***: Not significant or significant at $P \leq 0.001$, respectively.

Table 3. Fruit quality of triploid watermelon varieties, 2015.

Triploid variety	Total Soluble Solids (°Brix)	Rind Thickness (in)	Firmness (lbs-force)	Fruit Length (in)	Fruit Width (in)	Degree of Seedlessness [z]	Hollow Heart Severity[y]
Captivation	11.61 defghijkl[x]	0.63 bcdefg	3.39	10.56 efghijk	8.98	0.33 bcd	0.00
Cut Above	11.94 bcdefghi	0.59 efgh	3.00	11.14 abcdef	8.99	0.11 cd	0.33
Exclamation	11.33 ghijklm	0.73 a	3.57	10.62 efghij	9.56	0.22 cd	0.33
Fascination	11.55 efghijkl	0.62 bcdefg	3.95	11.36 abcde	9.02	0.44 bcd	0.33
KB 10770	11.67 defghijk	0.64 bcdefg	3.67	11.73 a	8.90	0.33 bcd	0.00
KB 12106	11.67 defghijk	0.59 efg	3.85	11.70 abc	8.70	0.56 bc	0.22
Kingman	11.39 fghijklm	0.59 efgh	3.19	11.24 abcdef	8.99	0.33 bcd	0.56
Lucille	11.83 bcdefghij	0.64 bcdefg	3.24	10.82 defgh	8.98	0.11 cd	0.11
Maxima	11.00 klmn	0.58 fgh	4.05	10.23 ghijkl	9.35	0.22 cd	0.00
Neptune	11.67 defghijk	0.66 bcde	3.37	10.38 fghijkl	8.98	0.44 bcd	0.33
NUN 31208	11.50 efghijklm	0.63 bcdefg	3.83	11.02 abcdefg	8.91	0.11 cd	0.00
NUN 6177	11.17 ijklm	0.66 bcde	4.04	10.71 defghi	9.41	1.22 a	0.22
NUN 7197	11.61 defghijkl	0.62 bcdefg	3.44	10.86 bcdefgh	8.57	0.33 bcd	0.33
Poseidon	12.56 abc	0.66 bcde	3.48	10.96 abcdefgh	8.87	0.11 cd	0.44
Premont	10.28 n	0.63 bcdefg	3.77	11.24 abcdef	9.05	0.22 cd	0.22
Razorback	11.33 ghijklm	0.63 bcdefg	3.87	9.82 jkl	8.66	0.11 cd	0.33
Savannah	12.22 abcde	0.69 ab	2.89	11.04 abcdefg	8.85	0.56 bc	0.67
SV0241WA	11.45 efghijklm	0.63 bcdefg	3.23	11.72 ab	8.88	0.11 cd	0.22
SV0258WA	12.05 bcdefgh	0.58 fgh	3.41	10.24 ghijkl	8.24	0.00 d	0.11
SV2757WA	12.17 abcdef	0.52 h	3.48	9.63 l	8.50	0.78 ab	0.22
SV7018WA	12.89 a	0.63 bcdefg	4.17	11.68 abc	9.09	0.11 cd	0.00

Table 3 *(continued)*

Triploid variety	Total Soluble Solids (°Brix)	Rind Thickness (in)	Firmness (lbs-force)	Fruit Length (in)	Fruit Width (in)	Degree of Seedlessness [z]	Hollow Heart Severity[y]
SV7112WA	12.38 abcd	0.66 bcde	3.18	11.22 abcdef	8.92	0.00 d	0.00
SV8298WA	12.61 ab	0.60 defg	3.83	00.04 abcdefg	8.74	0.22 cd	0.00
Sweet Dawn	11.50 efghijklm	0.62 bcdefg	2.85	11.57 abcd	8.98	0.44 bcd	0.00
Talca	11.11 jklm	0.68 abcd	3.44	10.39 fghijkl	8.75	0.33 bcd	0.00
Traveler	10.83 lmn	0.61 defg	3.59	10.11 hijkl	9.01	0.22 cd	0.00
Triple Crown	12.11 abcdefg	0.69 ab	3.71	11.16 abcdef	9.26	0.22 cd	0.67
Tri-X 313	11.56 efghijkl	0.62 bcdefg	3.59	10.85 cdefgh	8.92	0.00 d	0.00
Tri-X Palomar	11.78 cdefghijk	0.67 abcd	3.26	9.75 lk	9.17	0.33 bcd	0.00
UGR 131712	12.06 bcdefgh	0.69 abc	3.35	11.50 abcd	9.20	0.33 bcd	1.00
Unbridled	11.28 hijklm	0.61 cdefg	3.01	9.85 ijkl	9.15	0.00 d	0.00
Warrior	11.39 fghijklm	0.65 bcdef	3.76	11.40 abcde	9.19	0.33 bcd	0.33
WDL 0409	11.22 ijklm	0.68 abcd	3.47	11.01 abcdefg	8.78	0.22 cd	0.00
Wolverine	10.72 mn	0.57 gh	3.94	9.64 l	8.88	0.22 cd	0.00
7015	12.61 ab	0.64 bcdefg	3.27	9.84 jkl	9.07	0.33 bcd	0.11
Significance[w]	***	**	NS	***	NS	**	NS

[z] Degree of seedlessness: 0 = no seeds, 1 = 1−5 black seeds, 2 = >5 black seeds.
[y] Hollow heart, 1 = less than 10 mm gap, 2 = gap between 10-20 mm, 3 = gap more than 20 mm.
[x] Means within a column followed by the same letter are not significantly different according to Fisher's least significant difference test at $P \leq 0.05$.
[w] NS, **, ***: Not significant or significant at $P \leq 0.01$, or 0.001, respectively.

Table 4. Fusarium wilt ratings of triploid watermelon varieties, 2015

Triploid Variety	Percent Wilt[z]		Triploid Variety	Percent Wilt[z]	
Captivation	3.9	efg[y]	SV0258WA	24.0	a
Cut Above	4.7	defg	SV2757WA	7.3	bcdef
Exclamation	4.7	defg	SV7018WA	3.9	efg
Fascination	3.1	fg	SV7112WA	18.8	ab
KB 10770	5.7	cdef	SV8298WA	12.0	abcd
KB 12106	4.7	defg	Sweet Dawn	3.1	fg
Kingman	3.9	efg	Talca	7.3	bcdef
Lucille	4.7	defg	Traveler	2.3	g
Maxima	5.7	cdef	Triple Crown	3.9	efg
Neptune	4.7	defg	Tri-X 313	5.7	cdef
NUN 31208	4.7	defg	Tri-X Palomar	7.3	bcdef
NUN 6177	7.3	bcdef	UGR 131712	4.7	defg
NUN 7197	12.0	abcd	Unbridled	5.7	cdef
Poseidon	4.7	defg	Warrior	5.7	cdef
Premont	2.3	g	WDL 0409	3.9	efg
Razorback	5.7	cdef	Wolverine	3.9	efg
Savannah	9.4	abcde	7015	7.3	bcdef
SV0241WA	15.0	abc	Significance[x]		**

[z] Percentage of vine wilt of whole plot.
[y] Means within a column followed by the same letter are not significantly different according to Fisher's least significant difference test at $P \leq 0.05$.
[x] **: Significant at $P \leq 0.01$.

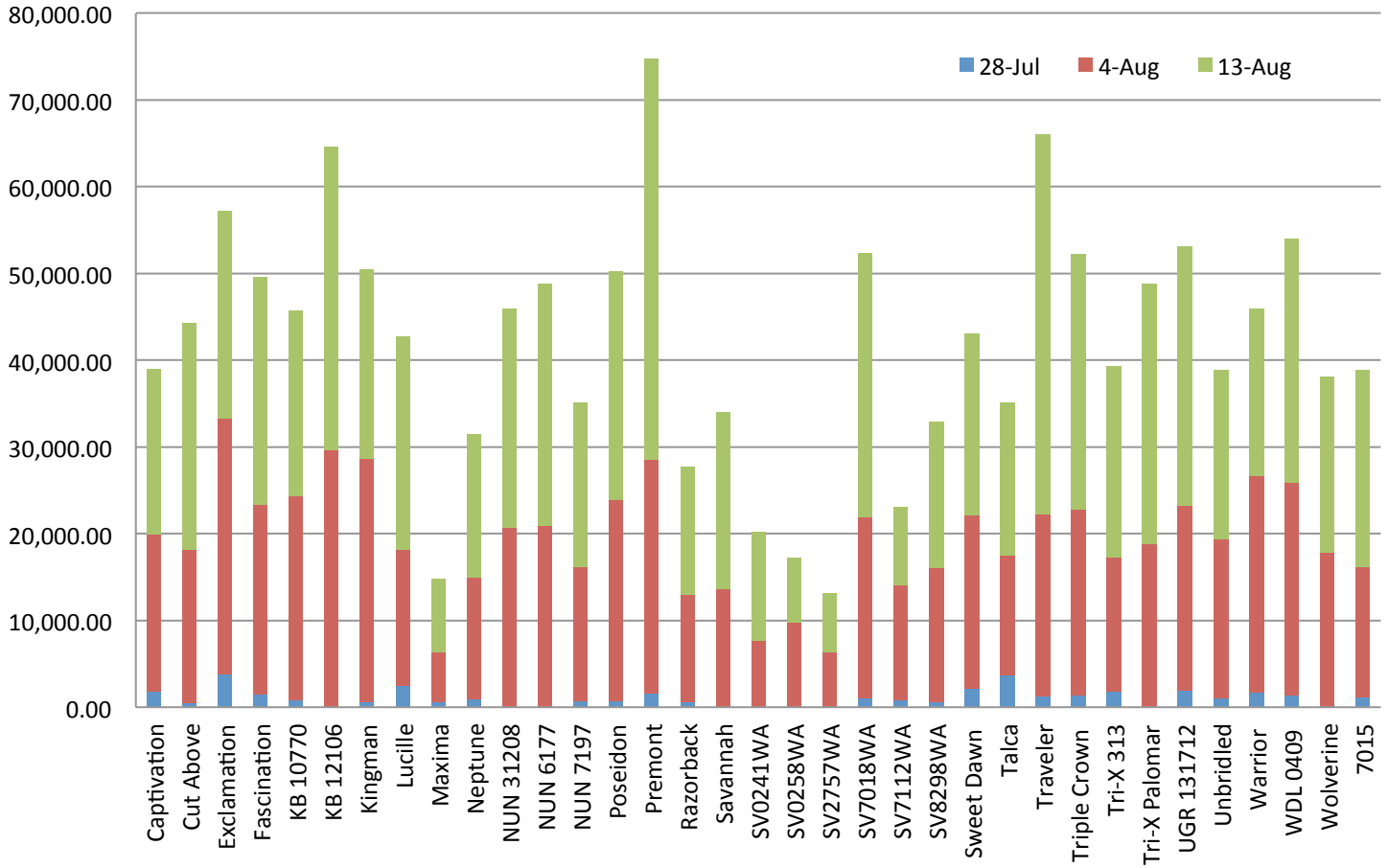

Figure 1. Yield of triploid watermelon varieties on each harvest date (lb/acre), 2015.

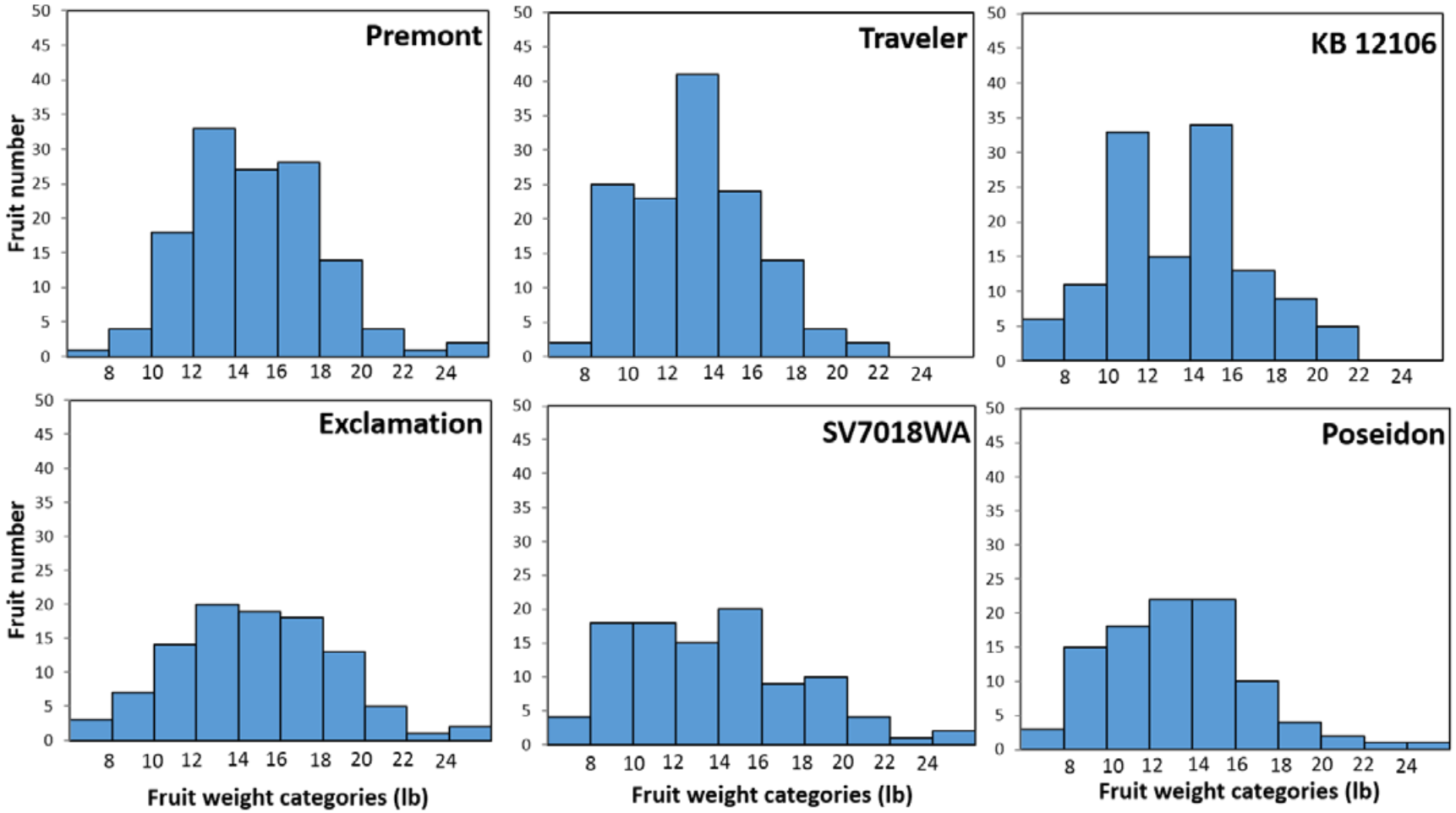

Figure 2. Distribution of the number of marketable fruit of top yielding triploid watermelon varieties harvested over the entire season in different fruit weight categories, 2015.

Supplementary Information

Table 5. July 28 harvest of seedless watermelon varieties, 2015.

Triploid Variety	Weight per Acre (lb)	Number of Fruit per Acre	Mean Fruit Weight (lb)
Captivation	1,876.3	113.4	5.5
Cut Above	522.6	37.8	4.6
Exclamation	3,763.1	226.9	17.0
Fascination	1,523.1	75.6	13.4
KB 10770	769.9	37.8	6.8
KB 12106	0	0	NA[z]
Kingman	665.5	37.8	5.9
Lucille	2,501.7	151.2	11.2
Maxima	618.6	37.8	5.4
Neptune	846.2	37.8	7.5
NUN 31208	0	0	NA
NUN 6177	0	0	NA
NUN 7197	735.8	37.8	6.5
Poseidon	667.0	37.8	5.9
Premont	1,577.5	75.6	6.9
Razorback	671.5	37.8	5.9
Savannah	0	0	NA
SV0241WA	0	0	NA
SV0258WA	0	0	NA
SV2757WA	0	0	NA
SV7018WA	1,061.0	75.6	9.3
SV7112WA	887.1	37.8	7.8
SV8298WA	640.5	37.8	5.6
Sweet Dawn	2,129.6	113.4	12.7
Talca	3,700.3	189.0	20.0
Traveler	1,198.0	75.6	10.6
Triple Crown	1,408.1	75.6	12.4
Tri-X 313	1,764.3	113.4	5.2
Tri-X Palomar	0	0	NA
UGR 131712	1,890.0	113.4	10.8
Unbridled	1,075.4	75.6	4.7

Table 5 *(continued)*

Triploid Variety	Weight per Acre (lb)	Number of Fruit per Acre	Mean Fruit Weight (lb)
Warrior	1,687.9	75.6	14.9
WDL 0409	1,393.8	75.6	12.3
Wolverine	0	0	NA
7015	1,220.6	75.6	10.8
Significance[y]	NS	NS	NS

[z] NA: Not available.
[y] NS: Not significant.

Table 6. August 4 harvest of seedless watermelon varieties, 2015.

Triploid Variety	Weight per Acre (lb)	Number of Fruit per Acre	Mean Fruit Weight (lb)
Captivation	17,973 abcdefgh[z]	1,210.0 abcdefgh	14.4
Cut Above	17,641 bcdefghi	1,210.0 abcdefgh	14.2
Exclamation	29,565 ab	1,739.4 abc	16.7
Fascination	21,795 abcde	1,399.1 abcdefg	15.6
KB 10770	23,624 abcde	1,550.3 abcdef	15.3
KB 12106	29,651 a	1,928.4 a	15.6
Kingman	28,004 ab	1,815.0 ab	15.4
Lucille	15,678 cdefghi	1,058.7 bcdefghi	14.6
Maxima	5,719 i	340.3 i	15.7
Neptune	14,118 defghi	945.3 defghi	14.8
NUN 31208	20,747 abcdef	1,399.1 abcdefg	15.0
NUN 6177	20,965 abcdef	1,285.6 abcdefg	16.3
NUN 7197	15,386 cdefghi	1,134.4 bcdefgh	13.4
Poseidon	23,221 abcde	1,550.3 abcdef	14.5
Premont	26,948 abc	1,625.9 abcd	16.6
Razorback	12,251 efghi	794.1 fghi	13.2
Savannah	13,620 defghi	945.3 defghi	14.2
SV0241WA	7,634 ghi	491.6 hi	15.9
SV0258WA	9,770 fghi	718.4 ghi	11.9
SV2757WA	6,281 hi	491.6 hi	13.4
SV7018WA	20,776 abcdef	1,285.6 abcdefg	15.6
SV7112WA	13,221 defghi	945.3 defghi	13.4

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Table 6 *(continued)*

Triploid Variety	Weight per Acre (lb)	Number of Fruit per Acre	Mean Fruit Weight (lb)
SV8298WA	15,431 cdefghi	1,058.7 bcdefghi	14.3
Sweet Dawn	19,994 abcdef	1,247.8 abcdefgh	15.7
Talca	13,742 defghi	831.9 efghi	14.8
Traveler	21,058 abcdef	1,474.7 abcdefg	14.2
Triple Crown	21,389 abcdef	1,739.4 abc	13.4
Tri-X 313	15,494 cdefghi	983.1 cdefghi	15.7
Tri-X Palomar	18,835 abcdefg	1,285.6 abcdefg	14.0
UGR 131712	21,314 abcdef	1,323.4 abcdefg	15.9
Unbridled	18,275 abcdefg	1,285.6 abcdefg	13.8
Warrior	25,039 abcd	1,512.5 abcdef	16.5
WDL 0409	24,504 abcd	1,588.1 abcde	15.3
Wolverine	17,843 abcdefgh	1,172.2 abcdefgh	13.7
7015	14,891 defghi	1,058.7 bcdefghi	13.9
Significance[y]	**	*	NS

[z] Means within a column followed by the same letter are not significantly different according to Fisher's least significant difference test at $P \leq 0.05$.
[y] NS, *, **: Not significant or significant at $P \leq 0.05$, or 0.01, respectively.

Table 7. August 13 harvest of seedless watermelon varieties, 2015.

Triploid Variety	Weight per Acre (lb)	Number of Fruit per Acre	Mean Fruit Weight (lb)
Captivation	19,106 cdefghijk[z]	1,663.7 efghij	11.3 cdefghij
Cut Above	26,190 bcdefg	2,268.7 cdefg	11.5 bcdefghi
Exclamation	23,883 bcdefgh	1,890.6 cdefghi	12.7 abcde
Fascination	26,234 bcdefg	1,966.2 cdefghi	13.2 ab
KB 10770	21,351 cdefghi	1,777.2 defghi	12.0 bcdefgh
KB 12106	34,964 ab	2,835.9 abc	12.3 abcdefg
Kingman	21,814 cdefgh	1,663.7 efghij	12.8 abcd
Lucille	24,547 bcdefgh	2,079.7 cdefgh	11.4 cdefghij
Maxima	8,432 jk	680.6 k	12.5 abcdef
Neptune	16,482 fghijk	1,474.7 ghijk	11.1 defghij
NUN 31208	25,233 bcdefgh	2,079.7 cdefgh	12.0 bcdefgh
NUN 6177	27,807 bcdef	2,155.3 cdefgh	13.0 abc
NUN 7197	18,955 cdefghijk	1,663.7 efghij	11.0 efghij

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Table 7 *(continued)*

Triploid Variety	Weight per Acre (lb)	Number of Fruit per Acre	Mean Fruit Weight (lb)
Poseidon	26,324 bcdefg	2,193.1 cdefg	11.8 bcdefghi
Premont	46,196 a	3,289.7 ab	14.0 a
Razorback	14,743 ghijk	1,210.0 hijk	11.0 efghij
Savannah	20,354 cdefghij	1,815.0 defghi	11.1 efghij
SV0241WA	12,566 hijk	1,096.6 ijk	10.9 fghij
SV0258WA	7,506 k	680.6 k	10.2 ij
SV2757WA	6,807 k	680.6 k	9.7 j
SV7018WA	30,472 bc	2,457.8 bcdef	12.0 bcdefgh
SV7112WA	8,930 ijk	794.1 jk	10.6 ghij
SV8298WA	16,794 efghijk	1,474.7 ghijk	11.4 cdefghij
Sweet Dawn	20,955 cdefghij	1,625.9 fghijk	12.8 abcd
Talca	17,658 defghijk	1,399.1 ghijk	11.8 bcdefghi
Traveler	43,788 a	3,554.4 a	12.3 abcdefg
Triple Crown	29,394 bcde	2,457.8 bcdef	11.8 bcdefghi
Tri-X 313	22,080 cdefgh	1,928.4 cdefghi	11.3 cdefghij
Tri-X Palomar	30,007 bcd	2,609.1 abcde	11.2 cdefghij
UGR 131712	29,896 bcd	2,646.9 abcd	11.3 cdefghij
Unbridled	19,484 cdefghijk	1,625.9 fghijk	11.1 efghij
Warrior	19,243 cdefghijk	1,512.5 fghijk	12.5 abcdef
WDL 0409	28,046 bcdef	2,155.3 cdefgh	13.0 abc
Wolverine	20,258 cdefghij	1,777.2 defghi	10.6 hij
7015	22,723 bcdefgh	2,117.5 cdefgh	10.7 ghij
Significance[y]	***	***	**

[z] Means within a column followed by the same letter are not significantly different according to Fisher's least significant difference test at $P \leq 0.05$.

[y] **, ***: Significant at $P \leq 0.01$ or 0.001, respectively.