



Spring 2017 Pepper Variety Trial

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Jupiter, FL

Table 1. Summary of cultural practices used for variety trial of pepper grown with seepage irrigation in Jupiter, FL during the spring of 2017.

Location	Bedner Farms, Jupiter, FL
Experimental design	RCBD (4 replications)
Plot size	26 plants (13 plants/row)
Harvest unit	26 plants (13 plants/row)
Total area	157.5 x 4 = 630 ft = 0.09 acres
Plastic mulch	Black on black
Planting date	9 Jan. 2017
Fumigation	3-way K-Pam at 30 gal/acre, telone at 4 gal/acre, and chloropicrin at 150 lb/acre
Number of rows	2
Distance between rows	18 inches
Bed spacing (center to center)	6 ft
Linear ft/acre	7,260
Bed height	9 inches
Bed width	32 inches
Plant spacing	9 inches
Plant population	19,360 plants/acre
Number of rows	2
Row run	North-South
Harvest date	
1 st	30 Mar. 2017
2 nd	13 Apr. 2017
Planting to 2 nd harvest	94 days

Table 2. Sources of pepper seeds and disease resistance

Variety	Company	Disease Resistance ^z
Antebellum	Seminis	HR: Tm: 0; IR: TSWV, Xcv: 1-10
Autry	Seminis	HR: Tm: 0; IR: TSWV, Xcv: 1-10
Blitz	Sakata	HR: TMV, Xcv: 1-5, 7-9
Green Machine	Seminis	HR: Tm: 0; IR: TSWV, Xcv: 1-10
Gridiron	Sakata	HR: TMV, Xcv: 1-5, 7-9; IR: TEV
Ninja S10	Sakata	HR: TMV; IR: Xcv: 1-10
Raven	HM.Clause	IR: Xcv: 1-10
RPP 43212	Syngenta	HR: TMV, TSWV; IR: Xcv: 1-10
RPP 43215	Syngenta	HR: TMV; IR: Xcv: 1-10
Samurai S10	Sakata	HR: TMV; IR: Xcv: 1-10
Touchdown	Sakata	HR: TMV; Xcv: 0-5, 7-9
Tracer	HM.Clause	IR: Xcv:1-10
9325	Seminis	HR: Xcv: 1-10
3255	Seminis	HR: Tm: 0; IR: Xcv: 1-10

^zTEV = Tobacco etch virus; TMV = Tobacco mosaic virus; TSWV = Tomato spotted wilt virus; Tm = Tobamovirus; Xcv = Bacterial spot – *Xanthomonas campestris* pv. *vesicatoria*; R = Resistant; IR = Intermediate Resistance

Table 3. Summary of mean, minimum (Min.) and maximum (Max.) temperature and total rainfall in the vicinity of Jupiter, FL between January and April 2017.^z

Period	Temperature (°F)			Total rainfall (inch)
	Average	Min	Max	
January	68.9	60.4	77.4	1.00
February	70.8	60.8	80.7	2.54
March	70.5	62.2	78.8	1.52
April	76.1	69.4	82.8	3.74
Average/Total	71.6	63.2	79.9	8.80

^zWeather data obtained from the NOAA Miami-South Florida Weather Forecast Office local climatology reporting location in West Palm Beach, FL.

Table 4. First harvest marketable and unmarketable yield categories for selected pepper varieties grown in Jupiter, FL during the spring of 2017.

Variety	Super-Jumbo ^z	Jumbo	X-Large	Large	Medium	Unmarketable	Total marketable
Antebellum	335 abcd ^y	611	427 bcd	34	5	124 cd	1,414 abc
Aristotle	482 a	668	225 d	41	0	97 cd	1,415 abc
Autry	456 ab	545	289 dc	10	13	99 cd	1,313 cd
Blitz	128 de	939	439 bcd	25	0	115 cd	1,532 a
Green Machine	163 cde	663	314 bcd	132	0	153 bcd	1,272 cde
Gridiron	249 bcd	592	393 bcd	40	0	167 bc	1,273 cde
Ninja S10	0 e	597	510 abc	211	0	154 bcd	1,318 bcd
Raven	334 abcd	421	293 bcd	48	0	82 cd	1,096 e
RPP 43212	422 ab	727	243 d	20	0	272 a	1,411 abc
RPP 43215	368 abc	638	378 bcd	41	0	218 ab	1,424 abc
Samurai S10	126 de	643	353 bcd	57	0	158 bc	1,179 abc
Touchdown	0 e	763	667 a	84	0	118 cd	1,514 ab
Tracer	244 bcd	521	309 bcd	179	0	84 cd	1,253 cde
9325	257 bcd	601	483 abc	80	0	142 bcd	1,420 abc
3255	193 cde	588	513 ab	82	0	63 d	1,377 abcd
P-value	0.0001	0.05	0.001	0.09	0.55	0.0003	0.0007
Sig.	***	NS	***	NS	NS	***	***

^zSuper-Jumbo \geq 0.75 lb; Jumbo = 0.55-0.74 lb; X-large = 0.43-0.54 lb; Large = 0.29-0.42 lb; Medium = 0.16-0.28 lb; Small \leq 0.16 lb.

^yWithin columns, means followed by different letters are significantly different according to Duncan's multiple range test at 5%. NS, *, **, *** Nonsignificant or significant at $P \leq 0.05$, 0.01, or 0.001, respectively.

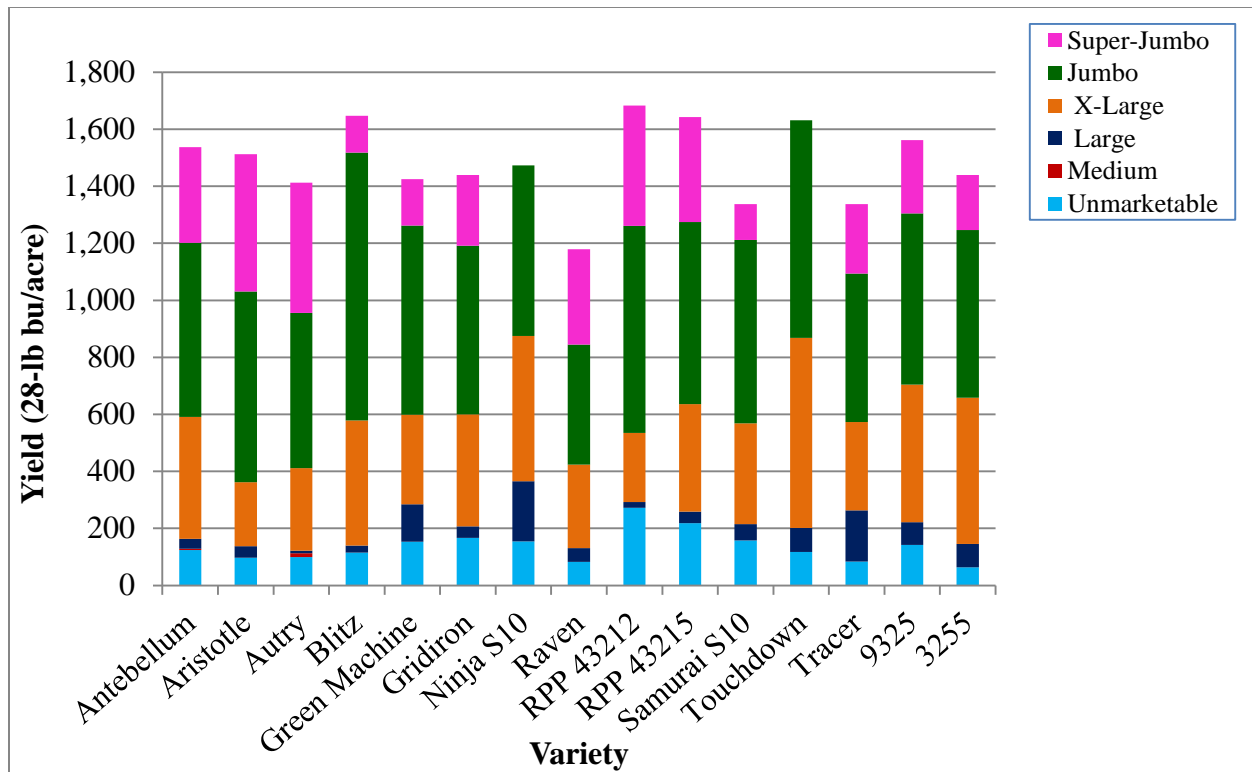


Figure 1. First harvest marketable and unmarketable yield totals by size category for selected pepper varieties grown in Jupiter, FL during the spring of 2017.

Table 5. Second harvest marketable and unmarketable yield categories for selected pepper varieties grown in Jupiter, FL during the spring of 2017.

Variety	Super-Jumbo ^z	Jumbo	X-Large	Large	Medium	Small	Unmarketable	Total Marketable
Yield (28-lb bu/acre)								
Antebellum	0	40	130 ab ^y	91	36 bc	0	82 b	296 bcdef
Aristotle	0	87	49 ab	56	0 abc	0	51 c	192 ef
Autry	0	81	136 ab	106	107 a	2	90 abc	432 abc
Blitz	21	50	123 ab	129	96 a	0	60 c	419 abcd
Green Machine	0	41	108 ab	98	82 abc	1	107 abc	330 bcdef
Gridiron	0	40	77 bc	56	26 c	0	57 c	199 f
Ninja S10	0	49	103 ab	44	47 abc	1	139 ab	244 def
Raven	24	112	167 a	167	78 abc	0	68 c	547 a
RPP 43212	0	43	62 bc	61	47 abc	1	154 a	214 f
RPP 43215	0	44	76 bc	94	82 abc	1	94 abc	296 bcdef
Samurai S10	0	28	116 ab	84	68 abc	0	76 bc	297 bcdef
Touchdown	0	42	74 bc	85	105 a	0	53 c	306 bcdef
Tracer	0	128	132 ab	121	76 abc	2	91 abc	458 ab
9325	0	66	100 abc	59	48 abc	0	65 c	273 cdef
3255	0	46	139 ab	122	92 ab	0	101 abc	400 abcde
P-value	0.56	0.20	0.02	0.14	0.05	0.64	0.02	0.0001
Sig.	NS	NS	*	NS	*	NS	*	***

^zSuper-Jumbo \geq 0.75 lb; Jumbo = 0.55-0.74 lb; X-large = 0.43-0.54 lb; Large = 0.29-0.42 lb; Medium = 0.16-0.28 lb; Small \leq 0.16 lb.

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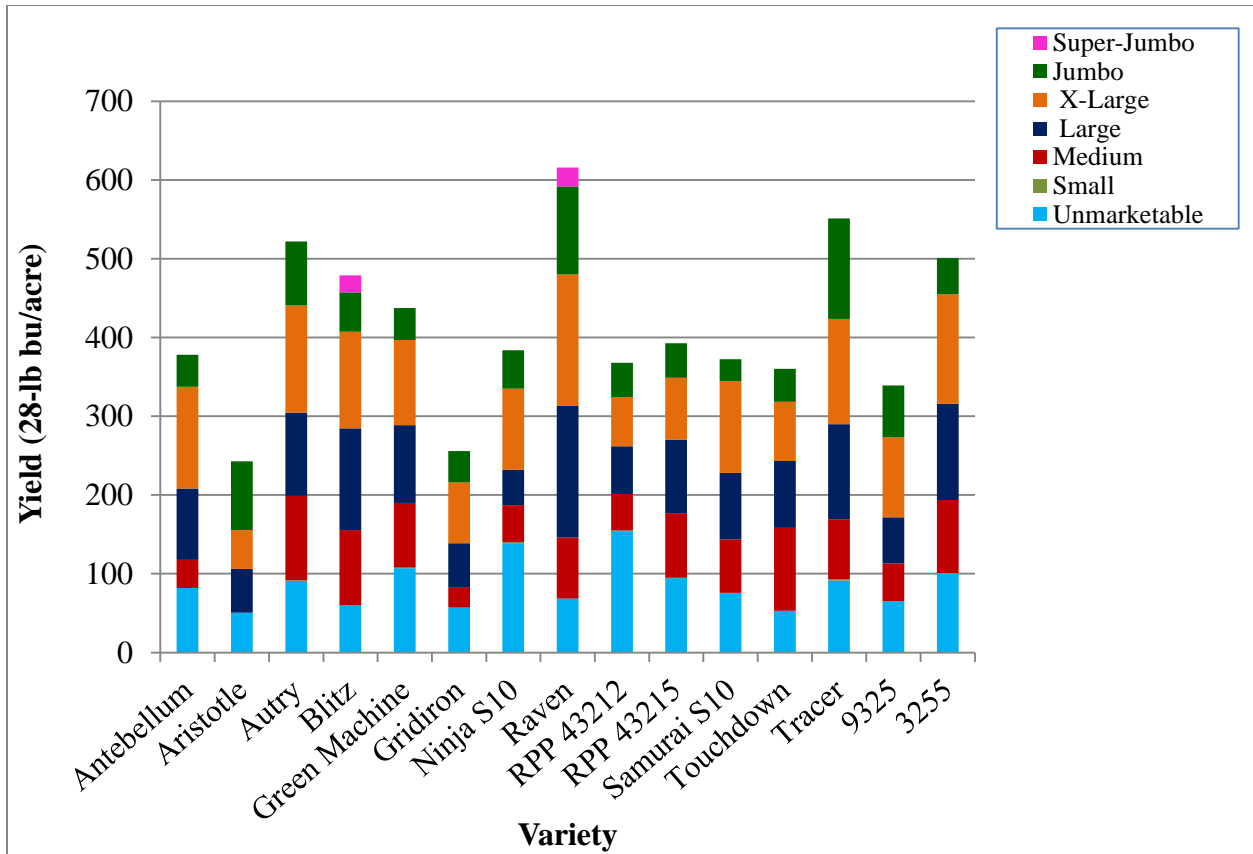


Figure 2. Second harvest marketable and unmarketable yield categories for selected pepper varieties grown in Jupiter, FL during the spring of 2017.

Table 6. Total harvest marketable and unmarketable yield categories for selected pepper varieties grown in Immokalee, FL during the spring of 2017.

Variety	Super-Jumbo ^z	Jumbo	X-Large	Large	Medium	Small	Unmarketable	Total Marketable
	Yield (28-lb bu/acre)							
Antebellum	335 abcd ^y	651	557 abc	125 ab	41	0	206 cde	1,710 abc
Aristotle	482 a	755	274 e	96 b	0	0	148 e	1,608 bc
Autry	456 ab	626	425 cde	116 b	120	2	189 de	1,745 ab
Blitz	150 de	989	562 abc	154 ab	96	0	175 de	1,951 a
Green Machine	163 cde	703	423 cde	230 ab	82	1	260 bcd	1,602 bc
Gridiron	249 bcd	632	470 bcd	96 b	26	0	224 bcde	1,472 c
Ninja S10	0 e	646	613 abc	255 ab	47	1	293 bc	1,563 bc
Raven	358 abcd	533	460 bcd	215 ab	78	0	151 e	1,643 bc
RPP 43212	422 ab	770	305 de	80 b	47	1	426 a	1,624 bc
RPP 43215	368 abc	682	453 bcde	134 ab	82	1	312 b	1,720 abc
Samurai S10	126 de	671	469 bcd	142 ab	68	0	234 bcde	1,476 bc
Touchdown	0 e	805	741 a	169 ab	105	0	171 de	1,820 ab
Tracer	244 bcd	648	442 bcde	300 a	76	2	175 de	1,712 abc
9325	257 bcd	667	583 abc	138 ab	48	0	207 cde	1,693 abc
3255	193 cde	634	652 ab	205 ab	92	0	164 de	1,776 ab
P-value	0.0001	0.13	0.0001	0.0002	0.052	0.64	0.0001	0.0001
Sig.	***	NS	***	***	NS	NS	***	***

^zSuper-Jumbo \geq 0.75 lb; Jumbo = 0.55-0.74 lb; X-large = 0.43-0.54 lb; Large = 0.29-0.42 lb; Medium = 0.16-0.28 lb; Small \leq 0.16 lb.

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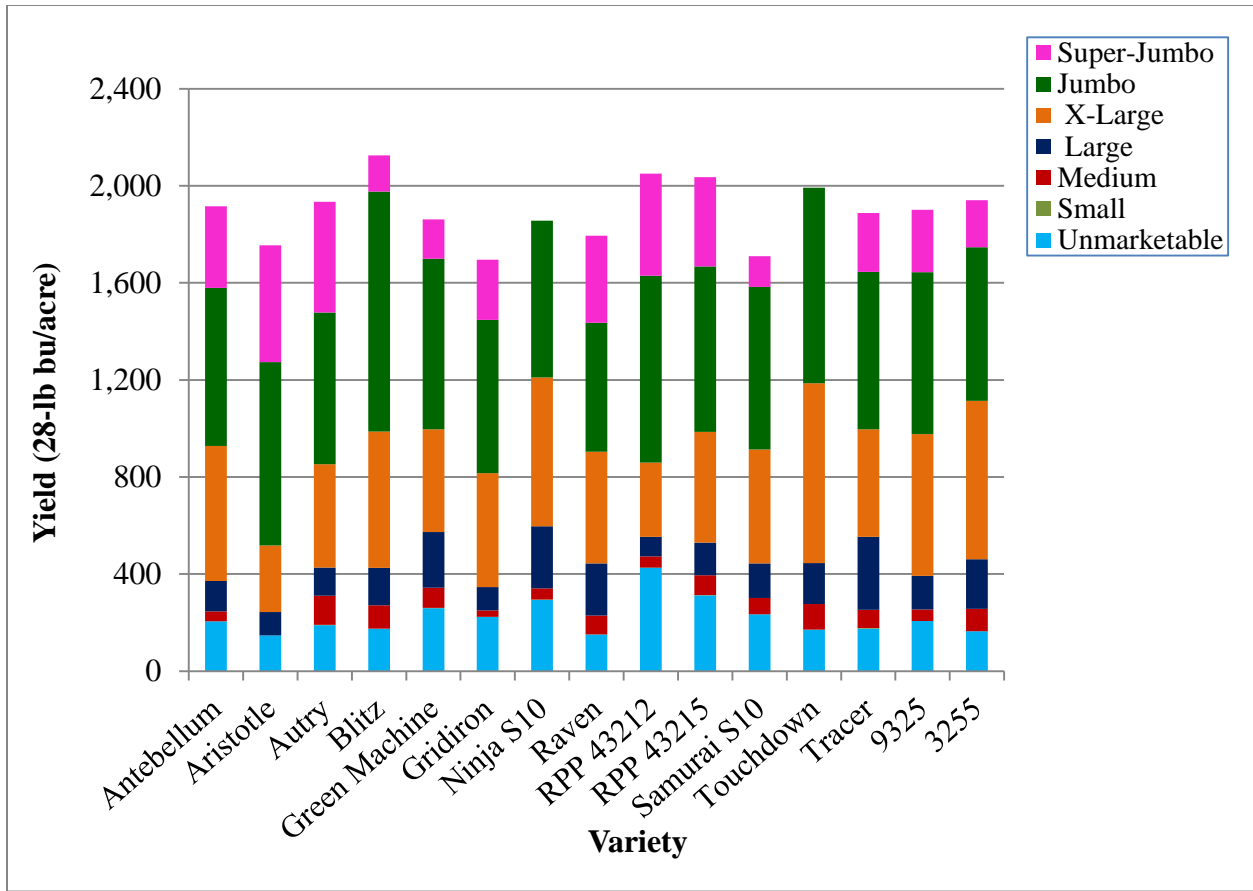


Figure 3. Total harvest marketable and unmarketable yield categories for selected pepper varieties grown in Jupiter, FL during the spring of 2017.

Table 5. Quality categories for selected pepper varieties grown in Jupiter, FL during the spring of 2017.

Variety	Locules (number)	Length	Width	Thickness		Ratio
				(inches)		
Antebellum	3.75	3.99 abc ^z	4.01 abcd	0.248 bcde		1.00 bc
Aristotle	3.75	3.99 cd	4.01 bcd	0.248 abcde		1.00 c
Autry	3.42	3.73 cd	3.97 abcd	0.251 bcde		0.95 c
Blitz	3.17	4.22 ab	3.71 d	0.278 ab		1.14 ab
Green Machine	3.75	3.76 cd	4.05 abc	0.248 bcde		0.94 c
Gridiron	3.92	3.70 cd	4.07 abc	0.271 abc		0.92 c
Ninja S10	3.75	3.78 cd	3.90 bcd	0.228 e		0.98 bc
Raven	3.58	3.62 cd	3.95 bcd	0.261 abcd		0.96 c
RPP 43212	3.83	3.53 cd	4.27 a	0.238 de		0.83 c
RPP 43215	3.75	3.53 cd	4.03 ab	0.226 cde		0.82 c
Samurai S10	3.58	4.48 a	3.79 cd	0.269 abcd		1.16 a
Touchdown	3.40	3.84 bcd	3.94 bcd	0.282 a		0.99 bc
Tracer	3.75	3.50 d	4.06 abc	0.250 bcde		0.87 c
9325	3.83	3.55 cd	3.98 abcd	0.243 cde		0.93 c
3255	3.75	3.85 bcd	4.04 abc	0.276 ab		0.96 c
P-value	0.32	0.0002	0.018	0.0008		0.0006
Sig.	NS	***	*	***		***

^zWithin columns, means followed by different letters are significantly different according to Duncan's Multiple Range Test.

NS, *, *** Nonsignificant or significant at $P \leq 0.05$, or 0.001, respectively.

Table 6. Cracking and bruising evaluation for selected pepper varieties grown in Jupiter, FL during the spring of 2017.

Variety	Cracking			Bruising					
				(1 day after harvest)			(5 days after harvest)		
	Height (inches)								
	12	24	36	12	24	36	12	24	36
(Rating 1-5) ^z									
Antebellum	1.0	1.0	2.7	1.3 ab ^y	2.7	3.3	1.7	2.7	3.3
Aristotle	1.0	1.0	2.3	2.0 a	2.7	3.3	2.0	2.7	3.3
Autry	1.0	1.0	1.0	1.3 ab	3.0	4.3	1.7	3.0	4.3
Blitz	1.0	1.0	1.3	2.0 ab	3.7	4.3	2.0	3.7	4.3
Green Machine	1.0	1.0	1.7	2.0 a	3.0	4.3	2.0	3.0	4.3
Gridiron	1.0	1.0	1.3	1.7 ab	2.7	3.3	1.7	2.7	3.3
Ninja S10	1.0	1.0	1.3	1.0 b	2.7	3.7	1.7	3.0	3.7
Raven	1.0	1.3	1.7	1.3 ab	2.3	3.7	1.3	2.3	3.7
RPP 43212	1.0	1.0	1.3	1.0 b	2.7	3.7	1.0	2.7	4.0
RPP 43215	1.0	1.0	1.0	1.3 ab	3.0	4.0	1.3	3.0	4.0
Samurai S10	1.0	1.3	1.7	1.0 b	2.0	3.3	1.3	2.3	3.3
Touchdown	1.0	1.0	1.0	1.3 ab	2.3	4.0	1.7	3.0	4.0
Tracer	1.0	1.3	1.7	1.0 ab	3.0	3.7	1.3	3.0	3.7
9979325	1.0	1.0	1.0	1.3 ab	3.0	3.7	1.3	3.0	4.0
9983255	1.0	1.0	2.3	1.3 ab	3.0	4.0	1.3	3.3	4.0
P-value	-	0.66	0.81	0.04	0.22	0.37	0.42	0.39	0.28
Sig.	NS	NS	NS	*	NS	NS	NS	NS	NS

^z1= none, 2 = slight, 3 = moderate, 4 = moderately severe, 5 = severe.

^yWithin columns, means followed by different letters are significantly different according to Duncan's Multiple Range Test at 5%.

NS, *, Non-significant or significant at $P \leq 0.05$, 0.01, or 0.001, respectively.