

# **Fall Pepper Variety Evaluation**



**Submitted by Monica Ozores-Hampton,  
Gene McAvoy, Chris Miller and Richard Raid  
University of Florida/SWFREC  
Palm Beach, FL  
February 6, 2015**

Table 1. Summary of cultural practices used for variety trial of pepper grown with seepage irrigation in Palm Beach, FL during Fall 2014.

---

Experimental design	RCBD (4 replications)
Plot size	26 plants (13 plants/row)
Harvest size	26 plants (13 plants/row)
Total area	225 ft x 4 reps = 900 ft/0.12 acres
Planting date	07 Oct. 2014
Fumigation	Telone (4 gal/acre), Chloropicrin (135 lb/acre), K-Pam (30 gal/acre)
Linear ft per acre	7,260
Bed spacing (center to center)	6 ft
Bed height	9 inches
Bed width	40 inches
Plant population	19,360 plants
Distance between plants	9 inches
No. of rows	2
Distance between rows	18 inches
Row run	South- North
Harvest date	
1 <sup>st</sup>	18 Dec. 2014
2 <sup>nd</sup>	15 Jan. 2015
Planting to 2 <sup>nd</sup> harvest	15 weeks

---

Table 2. Sources of pepper seeds

Variety	Company	Bacterial leaf spot resistance
Abay	Enza Zaden	1,2,3,4,5
Aristotle	Seminis	1,2,3
Bastille (SYN 1)	Syngenta Rogers	1,2,3,4,5,7,8,9
Bayonet	Syngenta Rogers	1,2,3,4,5,7,8,9, TSW
Blitz (SPP 7039)	Sakata	1,2,3,4,5,7,8,9, TMV
Dashen	Enza Zaden	1,2,3,4,5, TSW
Gridiron (SPP 9048)	Sakata	1,2,3,4,5,7,8,9, TMV
Islamorada	Seedway	1,2,3,4,5
Pepper #1	Clifton Seed	1,2,3,4,5
Rampart (SYN 9)	Syngenta Rogers	1,2,3,4,5,7,8,9
Seedway 48	Seedway	1,2,3,4,5,6,7,8,9,10
Seedway 6530	Seedway	1,2,3,4,5
Touchdown (SPP 6001)	Sakata	1,2,3,4,5,7,8,9, TMV
XPP 1718	Sakata	1,2,3,4,5,7,8, TMV
0972	Seminis	1,2,3,4,5,6,7,8,9,10, TSW
3255	Seminis	1,2,3,4,5,6,7,8,9,10
7141	Seminis	1,2,3,4,5,7,8,9
7318	Seedway	1,2,3,4,5
8302	Seminis	1,2,3,4,5,7,8,9
9325™	Seminis	1,2,3,4,5,6,7,8,9,10

Xcv 1,2,3,4,5,6,7,8,9,10 - Bacterial leaf spot (*Xanthomonas campestris* pv. *Vesicatoria*); TMV - Tobacco mosaic virus; TSW - Tomato spotted wilt.

Table 3. Summary of mean, minimum (Min.) and maximum (Max.) temperature and total rainfall in Palm Beach, FL during Fall 2014-15.

Period	Temperature (°F)			Total rainfall (inch)
	Average	Min.	Max.	
October	73.3 <sup>z</sup>	63.5	85.8	1.4
November	66.6	56.5	78.1	1.3
December	65.3	54.6	78.1	0.6
January	68.6	60.1	78.9	0.4
Average/Total	68.4	58.7	80.2	3.7

<sup>z</sup>Weather data obtained from Florida Automated Weather Network (FAWN) from University of Florida/Institute of Food and Agriculture Science, Everglades Florida Research and Education Center, Belle Glade, FL.

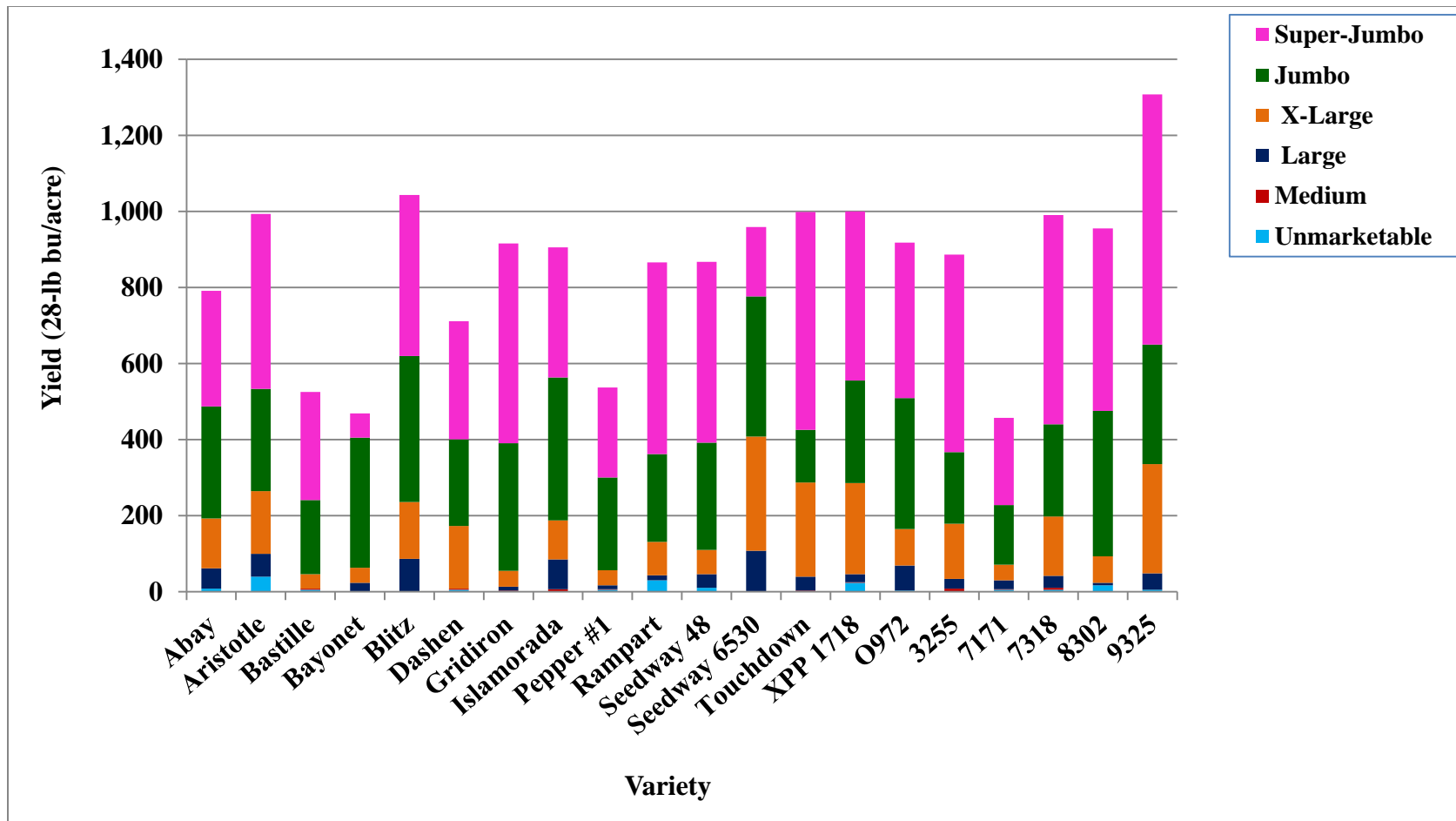


Figure 1. First harvest marketable and unmarketable yield categories for selected pepper varieties grown in Palm Beach, FL during Fall 2014.

Table 4. First harvest marketable and unmarketable yield categories for selected pepper varieties grown in Palm Beach, FL during Fall 2014.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Unmarketable	Total marketable
	-----Yield (28-lb bu/acre)-----						
Abay	304efghi <sup>z</sup>	294abcd	131cde	53	0	8	783cd
Aristotle	460abcdef	269abcd	165bcde	60	0	40	954bcd
Bastille	284fghi	194abcd	38e	0	3	5	520ef
Bayonet	63j	342abc	40e	22	2	0	469f
Blitz	424bcdefgh	384a	150cde	86	0	0	1,044b
Dashen	311defghi	228abcd	165bcde	0	3	5	706de
Gridiron	525abcd	336abc	42e	10	3	0	916bcd
Islamorada	342cdefghi	376ab	103de	78	7	0	906bcd
Pepper #1	236ghij	244abcd	40e	10	2	5	532ef
Rampart	504abcde	231abcd	88e	13	0	30	836bcd
Seedway 48	475abcdef	283abcd	63e	37	0	10	858bcd
Seedway 6530	182ij	369ab	300a	108	0	0	959bc
Touchdown	573ab	138d	248abc	37	3	0	999bc
XPP 1718	445abcdef	269abcd	239abcd	22	2	23	977bc
0972	409bcdefgh	344abc	96e	65	0	3	915bcd
3255	519abcde	188bcd	145cde	25	7	2	885bcd
7141	229hij	156cd	42e	23	2	5	452f
7318	550abc	243abcd	156bcde	32	5	5	986bc
8302	480abcdef	382ab	70e	7	0	17	939bcd
9325™	658a	314abcd	288ab	43	0	5	1,303a
P-value	0.0001	0.04	0.0001	0.27	0.80	0.06	0.0001
Significance	***	*	***	NS	NS	NS	***

<sup>z</sup>Within columns, means followed by different letters are significantly different according to Duncan's Multiple Range Test at 5%.

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

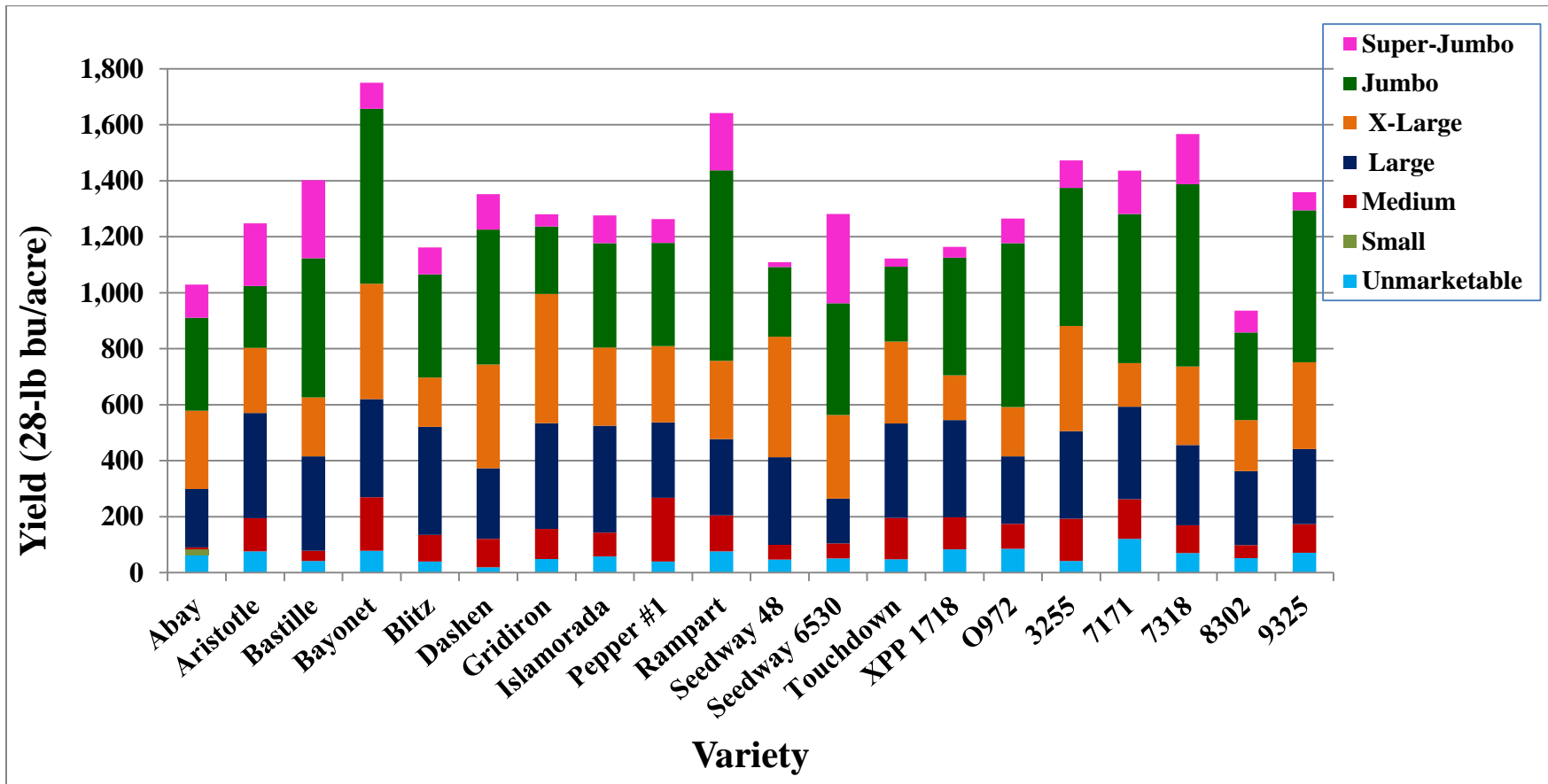


Figure 2. Second harvest marketable and unmarketable yield categories for selected pepper varieties grown in Palm Beach, FL during Fall 2014.

Table 5. Second harvest marketable and unmarketable yield categories for selected pepper varieties grown in Palm Beach, FL during Fall 2014.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Small	Unmarketable	Total marketable
	-----Yield (28-lb bu/acre)-----							
Abay	118cdef <sup>z</sup>	332defg	279abcd	209	7d	22	61	967hi
Aristotle	224abc	221g	233abcd	376	118abcd	0	76	1,172efgh
Bastille	279ab	497abcdef	211bcd	337	37cd	0	42	1,361bcde
Bayonet	93cdef	625abc	412abc	351	191ab	0	78	1,672a
Blitz	96cdef	369cdefg	176d	386	95bcd	0	40	1,122efgh
Dashen	126cdef	482abcdef	371abcd	253	101bcd	0	19	1,333cde
Gridiron	43ef	241fg	462a	377	108bcd	0	48	1,232defg
Islamorada	100cdef	372cdefg	279abcd	382	85bcd	0	58	1,218defg
Pepper #1	85def	369cdefg	273abcd	269	228a	0	40	1,223defg
Rampart	204abcd	681a	279abcd	273	128abc	0	76	1,566ab
Seedway 48	17f	249fg	430ab	312	53cd	0	47	1,062ghi
Seedway 6530	319a	399bcdefg	299abcd	160	53cd	0	51	1,230defg
Touchdown	30f	267fg	292abcd	338	147abc	0	48	1,074fghi
XPP 1718	38f	421bcdefg	160d	347	115bcd	0	83	1,080fghi
0972	88cdef	585abcd	176d	241	90bcd	0	85	1,180efgh
3255	98cdef	494abcdef	376abcd	312	151abc	0	42	1,431bcd
7141	155bcdef	533abcde	156d	330	142abc	0	121	1,315cdef
7318	180bcde	652ab	281abcd	286	100bcd	0	70	1,498abc
8302	78def	312efg	183cd	264	47cd	0	52	884i
9325™	65ef	544abcde	309abcd	269	101bcd	0	71	1,288cdefg
P-value	0.0001	0.0001	0.05	0.08	0.006	0.47	0.19	0.0001
Significance	***	***	*	NS	**	NS	NS	***

<sup>z</sup>Within 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.

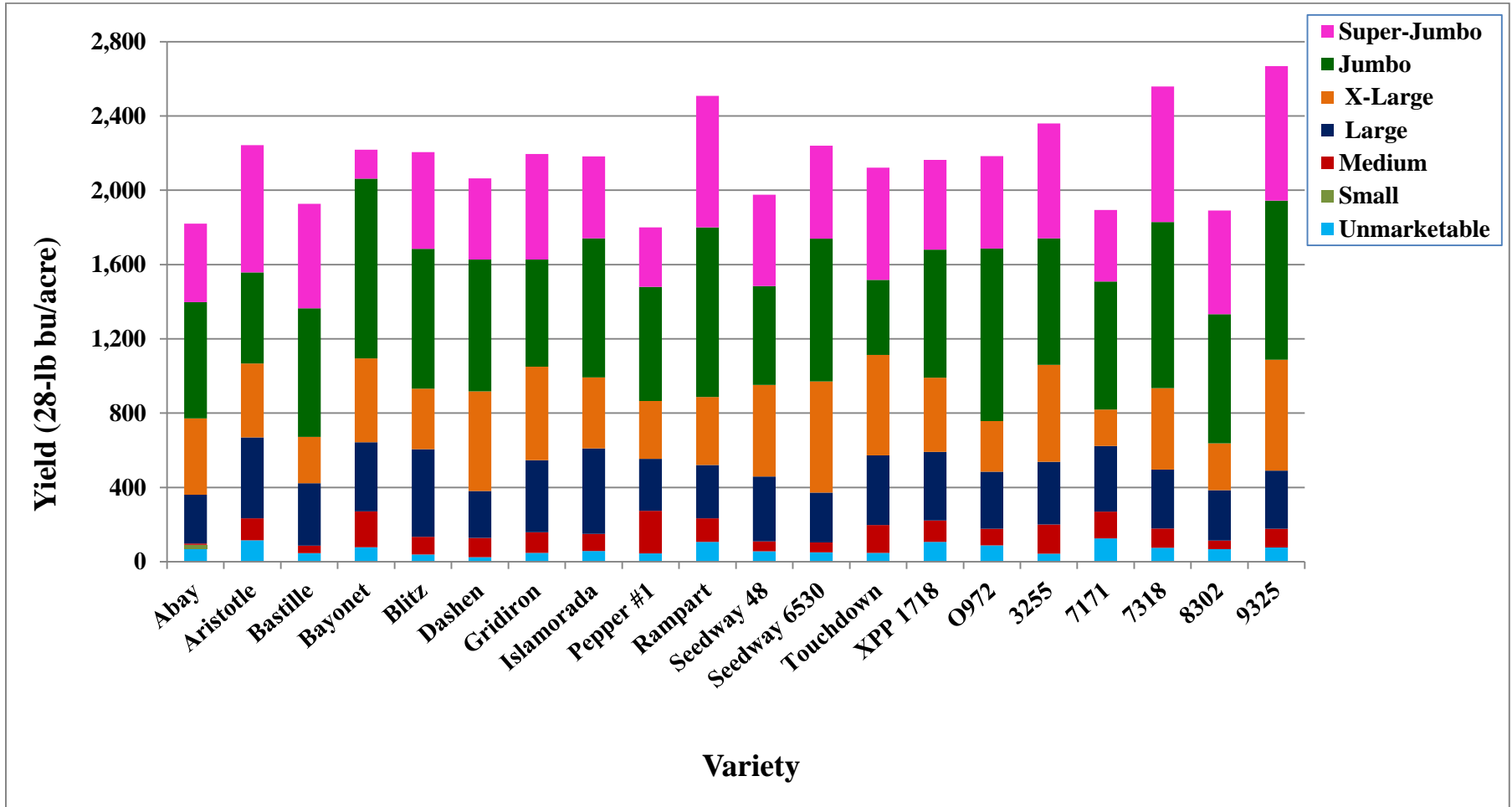


Figure 3. Total harvest marketable and unmarketable yield categories for selected pepper varieties grown in Palm Beach, FL during Fall 2014.



Table 6. Total harvest marketable and unmarketable yield categories for selected pepper varieties grown in Palm Beach, FL during Fall 2014.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Small	Unmarketable	Total marketable
	-----Yield (28-lb bu/acre)-----							
Abay	422bcd <sup>z</sup>	627bcdef	411abcde	263	7e	22	70abcd	1,750g
Aristotle	685ab	490ef	397abcde	435	118bcde	0	116ab	2,126bcdefg
Bastille	563abcd	691abcdef	249de	337	40de	0	47cd	1,881defg
Bayonet	156e	967a	452abcde	372	193ab	0	78abcd	2,141bcdef
Blitz	520abcd	753abcde	326bcde	472	95bcde	0	40cd	2,166bcd
Dashen	437bcd	710abcde	535ab	253	105bcde	0	24d	2,039cdefg
Gridiron	568abcd	577def	504abcd	387	111bcde	0	48cd	2,147bcde
Islamorada	442bcd	748abcde	382abcde	460	91bcde	0	58bcd	2,124bcdefg
Pepper #1	321de	613cdef	312bcde	279	229a	0	45cd	1,755fg
Rampart	708a	912ab	367abcde	286	128abcd	0	106	2,402abc
Seedway 48	492abcd	532ef	494abcd	349	53cde	0	57bcd	1,920defg
Seedway 6530	501abcd	768abcde	599a	268	53cde	0	51bcd	2,189bcd
Touchdown	603abc	405f	540ab	375	151abcd	0	48cd	2,073cdefg
XPP 1718	484abcd	690abcdef	399abcde	369	116bcde	0	106abc	2,058cdefg
0972	497abcd	929a	273cde	306	90bcde	0	88abcd	2,095cdefg
3255	617abc	682abcdef	521abc	338	158abc	0	43cd	2,316abc
7141	384cde	689abcdef	197e	353	144abcd	0	126a	1,767efg
7318	730a	894abc	437abcde	317	105bcde	0	75abcd	2,483ab
8302	558abcd	695abcdef	253de	271	47cde	0	68abcd	1,823defg
9325™	723a	858abcd	597a	312	101bcde	0	76abcd	2,591a
P-value	0.0002	0.001	0.005	0.21	0.004	0.47	0.02	0.0001
Significance	***	***	**	NS	**	NS	*	***

<sup>z</sup>Within 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.

Table 7. Quality categories for selected peppers varieties grown in Palm Beach, FL during Fall 2014.

Variety	Lobules (number)	Length ----- (inches)	Width ----- (inches)	Ratio	Thickness (inches)
Abay	3.8ab <sup>z</sup>	3.64bcde	3.47de	1.06abcd	0.26abcdef
Aristotle	3.5b	3.78ab	3.55abcde	1.07abc	0.28ab
Bastille	3.9ab	3.40e	3.65abcd	0.93f	0.25cdefg
Bayonet	4.2a	3.97a	3.54bcde	1.13a	0.29a
Blitz	3.8ab	3.51cde	3.57abcde	0.98cdef	0.26abcde
Dashen	3.7ab	3.74abc	3.62abcd	1.03bcde	0.27ab
Gridiron	3.9b	3.66ab	3.54ab	1.04bcde	0.26ab
Islamorada	3.5ab	3.80bcd	3.68bcde	1.03bcde	0.28abcde
Pepper #1	3.8ab	3.60bcde	3.54bcde	1.02bcde	0.26bcdef
Rampart	3.9ab	3.77ab	3.70ab	1.02bcde	0.24defg
Seedway 48	4.1a	3.64bcde	3.49cde	1.04abcd	0.24defg
Seedway 6530	3.7ab	3.78ab	3.54bcde	1.07abc	0.26bcdef
Touchdown	3.8ab	3.67bcd	3.42e	1.08ab	0.26bcdef
XPP 1718	3.7ab	3.51cde	3.59abcde	0.98cdef	0.27abcd
0972	3.9ab	3.48cde	3.55abcd	0.98def	0.26g
3255	4.0	3.51de	3.63abcde	0.97cdef	0.22bcdef
7141	3.9	3.68bcd	3.60abcd	1.03bcde	0.22g
7318	4.0ab	3.66bcd	3.61abcd	1.02bcdef	0.25bcdef
8302	3.9ab	3.47de	3.67abc	0.95ef	0.24efg
9325 <sup>TM</sup>	3.7ab	3.47de	3.73a	0.93f	0.24fg
P-value	0.29	0.0001	0.005	0.0001	0.0001
Significance	NS	***	**	***	***

<sup>z</sup>Within 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.

Table 8. Cracking and bruising evaluation for selected peppers varieties grown in Palm Beach, FL. during Fall 2014.

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) <sup>y</sup>									
Abay	1.0	1.0	1.3	1.3	2.0	2.7	1.3	2.7	3.7
Aristotle	1.0	1.0	1.7	1.3	1.7	3.3	1.7	2.3	4.3
Bastille	1.3	1.3	1.3	1.7	2.3	2.0	2.0	3.3	2.3
Bayonet	1.0	1.0	1.0	2.0	3.3	3.3	2.0	4.3	4.0
Blitz	1.0	1.0	1.0	1.0	2.0	3.3	1.0	2.0	3.7
Dashen	1.0	1.0	1.0	1.0	2.0	3.3	1.0	2.7	3.7
Gridiron	1.0	1.0	1.3	1.3	2.7	2.7	1.3	3.0	3.3
Islamorada	1.0	1.3	2.7	1.0	1.7	3.7	1.3	2.7	4.0
Pepper #1	1.3	1.7	1.7	1.0	2.3	2.3	1.0	2.7	3.0
Rampart	1.0	1.0	1.3	1.7	2.0	3.0	1.7	2.0	3.3
Seedway 48	1.0	1.0	1.0	2.0	4.5	4.0	2.0	4.5	4.0
Seedway 6530	1.0	1.0	1.7	1.3	1.7	2.3	1.3	2.0	3.0
Touchdown	1.0	2.0	1.3	1.7	2.3	2.7	1.7	2.7	3.3
XPP 1718	1.0	1.0	1.3	1.0	2.3	4.3	1.3	3.3	5.0
0972	1.0	1.0	1.3	1.3	2.7	4.3	1.7	3.0	4.7
3255	1.0	1.0	1.0	1.7	2.7	3.0	2.0	3.0	3.7
7141	1.0	1.0	1.3	1.0	2.0	3.0	1.3	2.0	3.0
7318	1.0	1.0	1.3	1.0	1.7	2.3	1.0	2.0	3.7
8302	1.0	1.3	1.3	1.0	2.0	3.0	1.0	3.0	3.7
9325™	1.0	1.0	2.3	1.3	2.0	3.0	1.3	2.0	3.0
P-value	0.48	0.55	0.60	0.10	0.15	0.15	0.18	0.18	0.46
Significance	NS	NS	NS	NS	NS	NS	NS	NS	NS

<sup>z</sup>1= none, 2 = slight, 3 = moderate, 4 = moderately severe, 5 = severe.

<sup>y</sup>Within columns, means followed by different letters are significantly different according to Duncan's multiple range test at 5%.

NS, Non-significant at  $P \leq 0.05$ .