

Fall Pepper Variety Evaluation



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Table 1. Summary of cultural practices used for variety trial of pepper grown with seepage irrigation in Immokalee, FL. during fall 2012.

Field history	
Location	Immokalee, FL.
Experimental design	RCBD (4 replications)
Irrigation	Seepage
Plot size	10.8 ft (26 plants)
Harvest size	10.8 ft (26 plants)
Total area	950 ft/0.13 acres
Planting date	26 Sept. 2012
Fumigation	K-pam @60 gal/acre
Linear ft per acre	7,260
Bed spacing (center to center)	6 ft
Bed height	9 inches
Bed width	32 inches
Plant population	17,477
Distance between plants	10 inches
No of rows	2
Distance between rows	20 inches
Row run	South- North
Harvest date	
1st	10 Dec. 2012
2nd	3 Jan. 2013
Planting to 2nd harvest	14 weeks

Table 2. Sources of pepper seeds

Variety	Company	Bacterial leaf spot (Xcv) resistance
ACR 2993	Abbott and Cobb	1,2,3,4,5,6
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
Cutlass	Syngenta Rogers	1,2,3,4,5,7,8,9, TSW
E41-20854	Enza Zaden	1, 2,3,4,5,7,8,9, Pc
E41-20896	Enza Zaden	1,2,3,4,5,7,8,9
E41-20900	Enza Zaden	1,2,3,4,5,7,8,9, TSW
Gridiron (SPP 9048)	Sakata	1,2,3,4,5,7,8,9, TMV
Hunter	Syngenta Rogers	1,2,3,4,5,7,8,9
PR 2	Pepper Research	1,2,3,4,5,6,7,8,9,10
PR 3	Pepper Research	1,2,3,4,5,6,7,8,9,10
PR 4	Pepper Research	1,2,3,4,5,6,7,8,9,10
Rampart (SYN 9)	Syngenta Rogers	1,2,3,4,5,7,8,9
Tom Cat	Syngenta Rogers	1,2,3,4,5,7,8,9
Touchdown (SPP 6001)	Sakata	1,2,3,4,5,7,8,9, TMV
XPP 8048Y (FPP 8048)	Sakata	1,2,3,4,5,7,8,9,TSW,TMV
3255	Seminis	1,2,3,4,5,6,7,8,9,10
7141	Seminis	1,2,3,4,5,7,8,9
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; Pc - Phytophthora root rot (*Phytophthora capsici*); TSW - Tomato spotted wilt.

Table 3. Summary of temperature and total rainfall in Immokalee, FL. during fall 2012.

Period	Temperature (°F)			Total rainfall (inch)
	Average	Min	Max	
Sept.	79.6	70.5	93.1	1.2
Oct.	74.9	66.4	87.6	3.7
Nov.	64.5	52.0	80.3	0.1
Dec.	65.8	53.6	80.1	2.5
Jan.	67.9	55.5	84.0	0.0
Average/Total	70.5	59.6	85.0	7.5

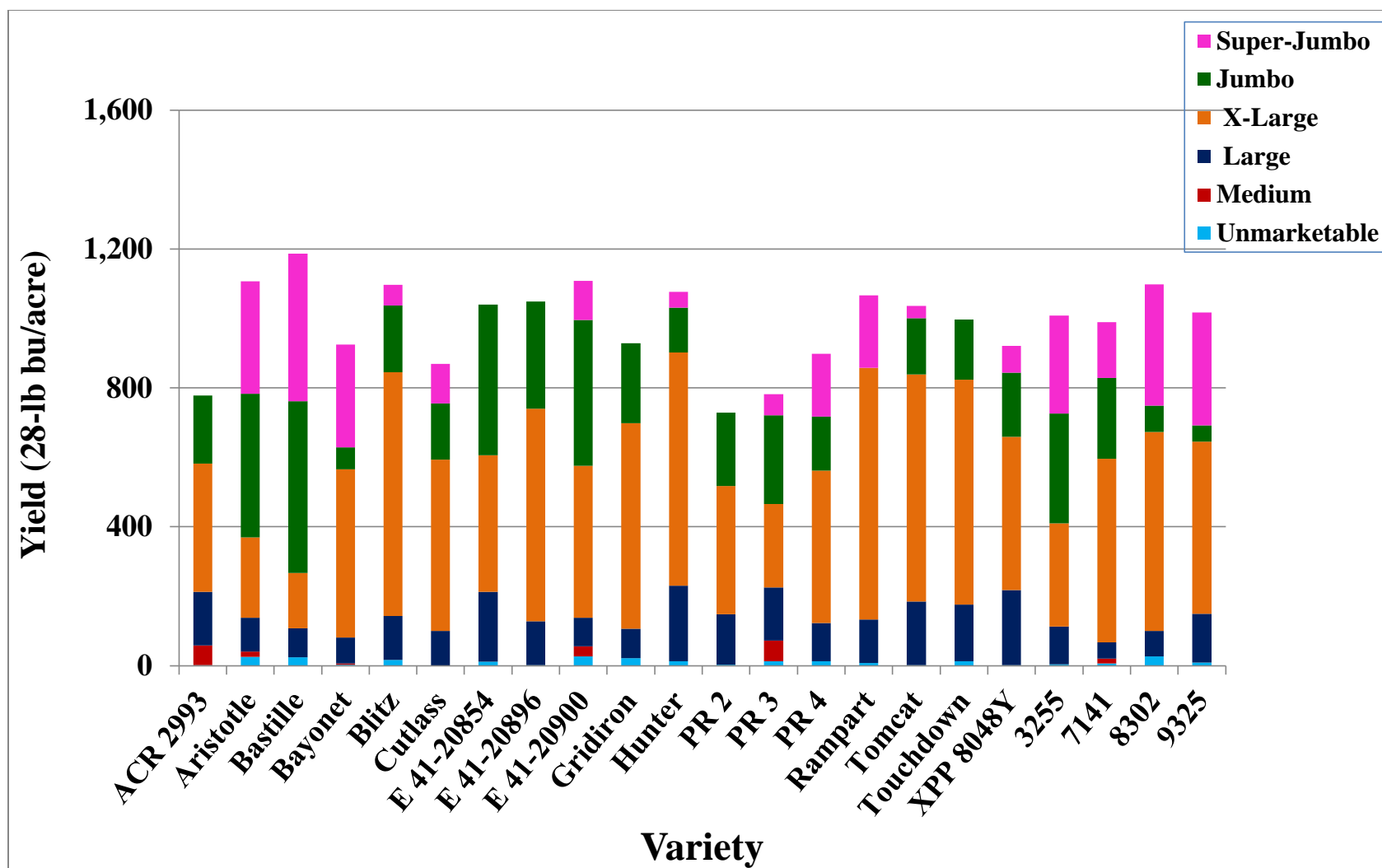


Fig. 1. First harvest marketable and unmarketable yield categories for selected pepper varieties grown in Immokalee, FL. during fall 2012.

Table 4. First harvest marketable and unmarketable yield categories for selected pepper varieties grown in Immokalee, FL. during fall 2012.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Unmarketable	Total marketable
-----Yield (28-lb bu/acre)-----							
ACR 2993	0h	197	369bcdef	155abcd	57	1	777de
Aristotle	324abc	414	231ef	98cde	15	26	1,082ab
Bastille	424a	495	159f	84de	0	24	1,162a
Bayonet	296abcd	63	484abcdef	76de	3	3	922bcd
Blitz	60fgh	192	702ab	126abcde	0	17	1,080ab
Cutlass	114efgh	162	493abcdef	100cde	0	0	870cde
E 41-20854	0h	434	394abcdef	200ab	0	12	1,028abc
E 41-20896	0h	309	613abc	126abcde	0	2	1,048abc
E 41-20900	113efgh	420	437abcdef	82de	29	27	1,081ab
Gridiron	0h	230	592abc	85de	0	22	907bcde
Hunter	45fgh	129	672ab	216a	0	13	1,063abc
PR 2	0hh	211	370bcdef	145abcd	0	3	726e
PR 3	62fgh	255	241def	153abcd	59	14	769de
PR 4	181def	156	438abcdef	111bcde	0	12	886bcde
Rampart	209cde	0	725a	126abcde	0	8	1,059abc
Tomcat	36gh	161	654ab	184abc	0	1	1,035abc
Touchdown	0h	173	648ab	162abcd	0	14	983abc
XPP 8048Y	77efgh	185	441abcdef	216a	0	2	919bcd
3255	282bcd	317	297cdef	108bcde	0	5	1,004abc
7141	161defg	233	528abcde	47e	15	6	983 ab
8302	350ab	75	573abcd	74de	0	27	1,071 ab
9325™	326abc	47	495abcdef	141abcde	0	9	1,008abc
P. value	0.0001	0.10	0.002	0.0009	0.51	0.08	0.0001
Sig.	**	ns	**	**	ns	ns	**

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

**Significance at $P \leq 0.01$. *Significance at $P \leq 0.05$. ns = Non-significance.

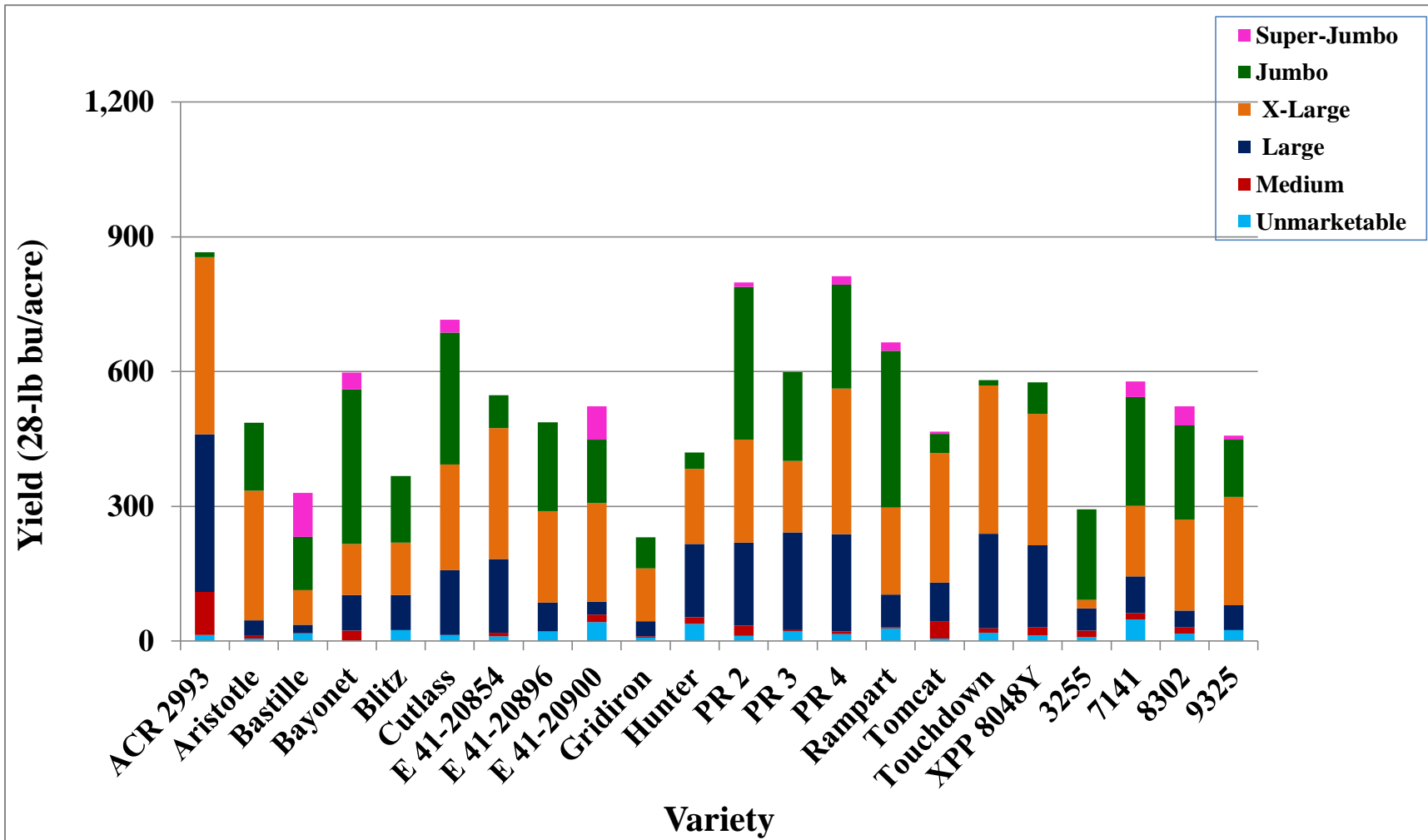


Fig. 2. Second harvest marketable and unmarketable yield categories for selected pepper varieties grown in Immokalee, FL. during fall 2012.

Table 5. Second harvest marketable and unmarketable yield categories for selected pepper varieties grown in Immokalee, FL. during fall 2012.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Unmarketable	Total marketable
-----Yield (28-lb bu/acre)-----							
ACR 2993	0c	11g	395a	351a	96	13bcd	852a
Aristotle	0c	152bcdefg	288abc	35de	6	6cd	480efgh
Bastille	98a	119cdefg	77cd	18e	1	17abcd	314ijk
Bayonet	38bc	345a	114bcd	80bcde	23	0d	598cde
Blitz	0c	149bcdefg	117bcd	78bcde	0	24abcd	344hijk
Cutlass	29bc	294ab	235abcd	145bcde	0	14bcd	702bc
E 41-20854	0c	73defg	291abc	164bcde	8	11bcd	536def
E 41-20896	0c	198abcdef	204abcd	65bcde	0	21abcd	466efgh
E 41-20900	74ab	141bcdefg	220abcd	29de	17	42ab	481efgh
Gridiron	0c	70defg	118bcd	34de	3	8cd	224k
Hunter	0c	36fg	167bcd	163bcde	16	38abc	382ghij
PR 2	9c	340a	229abcd	185bcd	23	12bcd	786ab
PR 3	0c	197abcdef	159bcd	218ab	3	21abcd	577cdef
PR 4	19bc	231abcd	324ab	217ab	6	16abcd	796ab
Rampart	18bc	350a	194abcd	72bcde	3	29abcd	636cd
Tomcat	5c	42efg	289abc	87bcde	37	6cd	460efgh
Touchdown	0c	12g	330ab	210bc	11	18abcd	563cdef
XPP 8048Y	0c	71defg	293abc	183bcd	18	12bcd	564cdef
3255	0c	203abcde	18d	50de	15	9bcd	285jk
7141	35bc	242abc	158bcd	83bcde	14	48a	530def
8302	42bc	210abcd	203abcd	38	14	17abcd	506defg
9325™	9c	128cdefg	242abcd	56	0	24abcd	434fghi
P. value	0.006	0.0001	0.03	0.0001	0.13	0.02	0.0001
Sig.	**	**	*	**	ns	*	**

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**Significance at $P \leq 0.01$. *Significance at $P \leq 0.05$. ns = Non-significance.

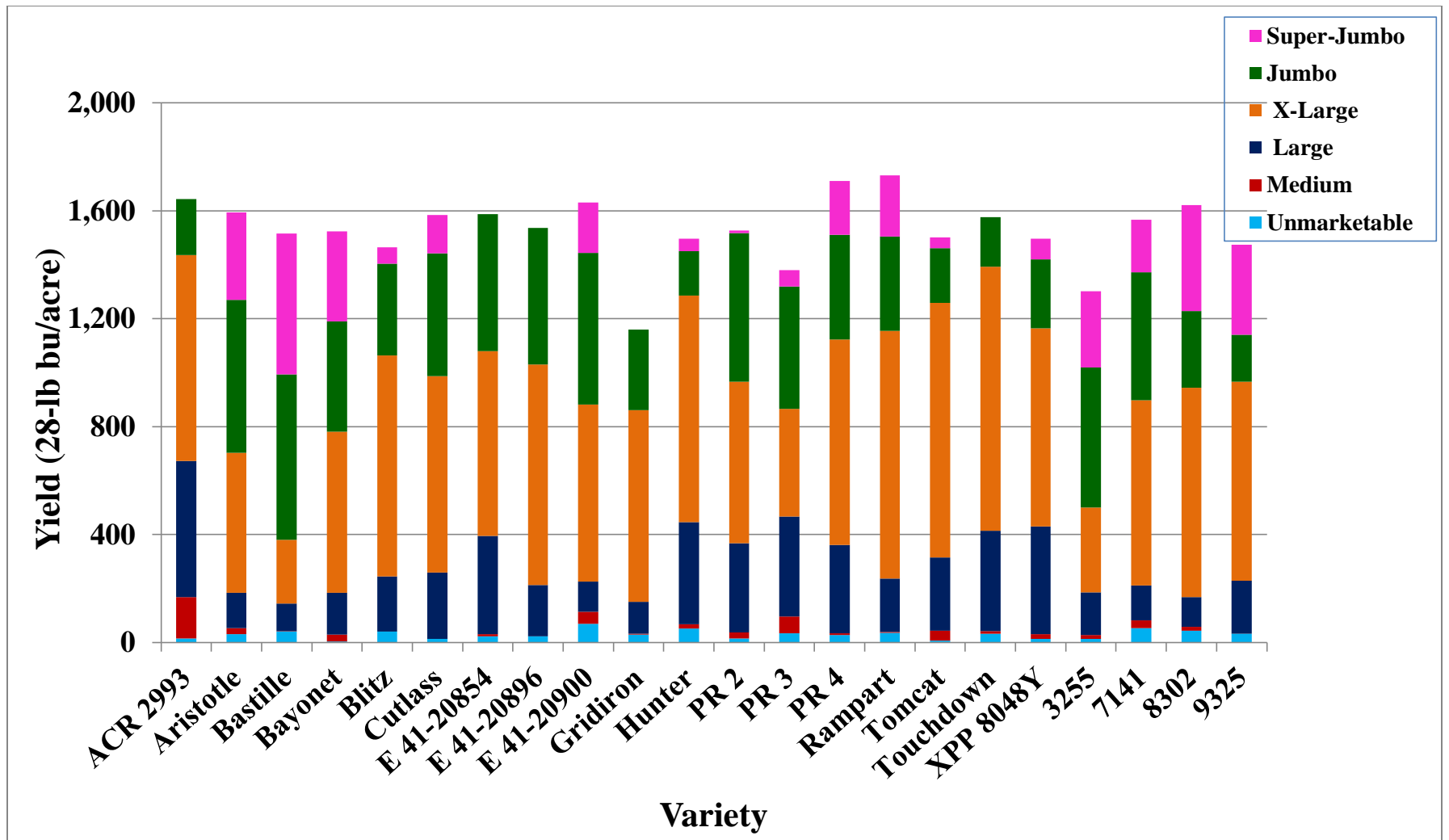


Fig. 3. Total harvest marketable and unmarketable yield categories for selected pepper varieties grown in Immokalee, FL. during fall 2012.

Table 6. Total harvest marketable and unmarketable yield categories for selected pepper varieties grown in Immokalee, FL. during fall 2012.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Unmarketable	Total marketable
-----Yield (28-lb bu/acre)-----							
ACR 2993	0g	207	764abcd	506a	153a	14bcd	1,630ab
Aristotle	324bc	566	519cdef	132e	21b	32abcd	1,562abc
Bastille	522a	614	237f	102e	1b	41abcd	1,476abcd
Bayonet	334bc	408	598bcde	155de	26b	3d	1,520abc
Blitz	60fg	341	819abc	204cde	0b	41abcd	1,424bcd
Cutlass	143defg	455	728abcd	245bcde	0b	14bcd	1,571abc
E 41-20854	0g	507	685abcd	364abc	8b	23bcd	1,564abc
E 41-20896	0g	507	817abc	190cde	0b	23bcd	1,514abcd
E 41-20900	187cdef	561	657abcde	111e	45b	69a	1,562abc
Gridiron	0g	299	710abcd	119e	3b	29bcd	1,131e
Hunter	45fg	166	839abc	380abc	16b	51ab	1,445bcd
PR 2	9g	551	599bcde	330abcd	23b	15bcd	1,512abcd
PR 3	62fg	453	400def	371abc	62b	35abcd	1,346cd
PR 4	200cdef	387	762abcd	327abcd	6b	28bcd	1,682a
Rampart	227cde	350	918ab	198cde	3b	36abcd	1,696a
Tomcat	41fg	203	943ab	271bcde	37b	7cd	1,495abcd
Touchdown	0g	185	978a	372abc	11b	32abcd	1,546abc
XPP 8048Y	77efg	256	734abcd	399ab	18b	14bcd	1,483abcd
3255	282bcd	519	315ef	158de	15b	14bcd	1,289de
7141	195cdef	474	686abcd	129e	29b	54ab	1,513abcd
8302	392ab	285	776abc	111e	14b	44abc	1,577abc
9325™	335bc	174	737abcd	197cde	0b	33abcd	1,442bcd
P. value	0.0001	0.06	0.0004	0.0001	0.002	0.02	0.0001
Sig.	**	ns	**	**	**	*	**

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

**Significance at $P \leq 0.01$. *Significance at $P \leq 0.05$. ns = Non-significance.

Table 7. Quality categories for selected peppers varieties grown in Immokalee, FL. during fall 2012.

Variety	Lobules (number)	Length ----- (inch) -----	Width ----- (inch) -----	Thickness	Ratio
ACR 2993	3.6abcde	4.12fgh	3.47efgh	0.322a	1.190efg
Aristotle	3.6abcde	4.65ab	3.82abc	0.284bc	1.227cdefg
Bastille	3.8abc	4.75a	3.94a	0.277bc	1.210defg
Bayonet	3.8abc	4.65ab	3.39gh	0.275bc	1.379a
Blitz	3.3cde	4.36bcdef	3.54efg	0.271bc	1.238cdefg
Cutlass	3.1e	4.42bcde	3.36gh	0.277bc	1.320abc
E 41-20854	4.0ab	3.94h	3.76abcd	0.262bc	1.053i
E 41-20896	3.6abcde	4.37bcdef	3.54defg	0.279bc	1.233cdefg
E 41-20900	3.5bcde	4.76a	3.64cdef	0.280bc	1.305abcd
Gridiron	3.6abcde	4.42bcde	3.27h	0.258bc	1.357ab
Hunter	3.6abcde	4.04gh	3.44fgh	0.285bc	1.176efgh
PR 2	3.2de	4.13efgh	3.49efg	0.288bc	1.191efgh
PR 3	4.0ab	4.31cdefg	3.57defg	0.291b	1.215cdefg
PR 4	3.9ab	4.26defg	3.66bcde	0.277bc	1.167efgh
Rampart	3.8abc	4.59abc	3.68bcde	0.275bc	1.254bcdef
Tomcat	3.6abcde	4.36bcdef	3.43fgh	0.283bc	1.274abcde
Touchdown	3.6abcde	4.35bcdef	3.45fgh	0.254c	1.268bcde
XPP 8048Y	3.7abcd	4.08fgh	3.56defg	0.263bc	1.146fghi
3255	3.9ab	4.44bcd	3.68bcde	0.277bc	1.206defg
7141	3.8abc	4.79a	3.67bcde	0.265bc	1.305abcd
8302	4.0ab	4.35bcdef	3.87ab	0.271bc	1.130ghi
9325™	4.1a	4.22defgh	3.90a	0.280bc	1.084hi
P. value	0.0001	0.0001	0.0001	0.03	0.0001
Sig.	**	**	**	*	**

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

**Significance at $P \leq 0.01$. *Significance at $P \leq 0.05$. ns = Non-significance.