

Fall 2020 Pepper Variety Evaluation



**Prepared by Phillip Williams,
Gene McAvoy, Craig Frey, Richard Raid, Ann Hartman, Jessie
Watson**

**University of Florida/SWFREC & EREC
Bonita, FL
April 9, 2021**

Table 1. Summary of cultural practices used for variety trial of pepper grown with drip irrigation in Bonita, FL during Fall 2020.

Field history	
Location	Old Bailey Farms, Bonita, FL
Experimental design	RCBD (4 replications)
Irrigation	Drip
Plot size	9.75 ft/13 plants/row
Harvest size	26 plants (13plants/row)
Total area	15 varieties x 10 feet X 2 feet walk throughs x 4 Reps = 1200 ft/0.17 acres
Planting date	22-Sep-20
Fumigation	KPam 30gpa and PicClor 60 100 lbs per acre
Plastic Mulch	Black VIF
Linear ft per acre	7,260
Bed spacing (center to center)	6 ft
Bed height	10 inches
Bed width	40 inches
Plant population/ac	17,280
Distance between plants	10 inches
No of rows	2
Distance between rows	18 inches
Row run	South- North
Harvest dates:	
1st	2-Dec-20
2nd	10-Dec-20
3rd	18-Dec-20
Planting to first harvest	71 days

Table 2. Sources of pepper seeds.

Variety	Company	Bacterial leaf spot (Xcv) and virus resistance
Sunakku Ichigo	Sakata	TMV:0-2,
Ruby Delite	Sakata	Xcv: 0-3, 7, 8, HR: TMV:0
Sunakku Mikan	Sakata	TMV:0,
Orange Delite	Sakata	Xcv: 0-3, 7, 8, HR: TMV:0
Yellow Sparkler	Sakata	TMV:0
Lemon Delite	Sakata	Xcv: 0-3, 7, 8, HR: TMV:0
SVPS 2971 (yellow)	Seminis	IR Xcv: 1-10R
SVPS 0953 (orange)	Seminis	IR Xcv: 1-10R
SVPS 0897 (red)	Seminis	IR Xcv: 1-10R
RPP 42444 (yellow)	Syngenta	TMV: 0
RPP 42454 (orange)	Syngenta	TMV: 0
RPP 42456 (red)	Syngenta	TMV: 0
UFJNICB F1	UF/IFAS	
UFCB 619	UF/IFAS	
UFJNI 619	UF/IFAS	

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 virus.

Table 3. Summary of mean, minimum (Min.) and maximum (Max.) temperature and total rainfall in Bonita, FL during Fall 2020-21.

Period	Temperature (°F)			Total rainfall (inch)
	Average	Min	Max	
September	79.6	72.5	89.5	0.9
October	78.7	72.1	88.7	2.9
November	73.2	65.1	83.5	6.3
December	62.8	51.6	75.3	2.9
January	65.0	53.1	78.6	0.0
Average/Total	71.9	62.9	83.1	2.6

^aWeather data obtained from Florida Automated Weather Network (FAWN) from University of Florida/Institute of Food and Agriculture Sciences (IFAS), Southwest Florida Research and Education Center in Immokalee, FL.

Table 4. First harvest marketable and unmarketable yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Variety	Marketable	Unmarketable
	Yield (25-lb bu/acre)	
Sunakku Ichigo	149.00ef ^y	6.000d
Ruby Delite	339.00ab	12.750cd
Sunakku Mikan	27.75ih	0.000d
Orange Delite	397.50bc	7.500d
Yellow Sparkler	50.75igh	6.000d
Lemon Delite	302.00bc	28.500bc
SVPS 2971 (yellow)	92.00fgh	0.750d
SVPS 0953 (orange)	249.25dc	3.750d
SVPS 0897 (red)	145.25fe	9.750d
RPP 42444 (yellow)	198.00de	48.500a
RPP 42454 (orange)	114.00fg	15.750cd
RPP 42456 (red)	79.50figh	10.500d
UFJNICB F1	324.75b	36.750ab
UFCB 619	8.25i	6.000d
UFJNI 619	17.75ih	1.500d
P-value	.0001	.0001
Significance	***	***

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

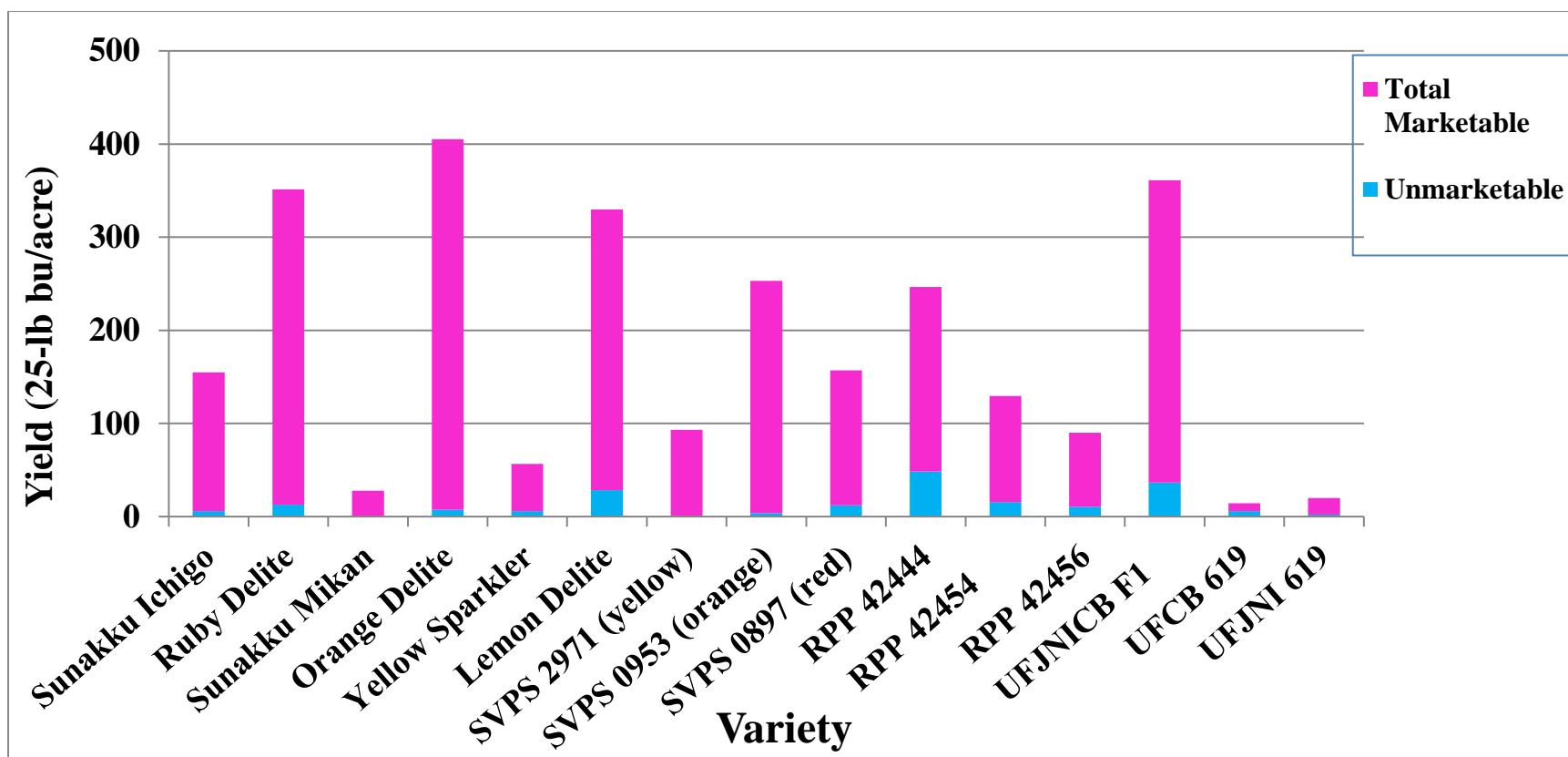


Figure 1. First harvest marketable and unmarketable yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Table 5. Second harvest marketable and unmarketable yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Variety	Marketable	Unmarketable
	Yield (25-lb bu/acre)	
Sunakku Ichigo	61.25ed ^y	12.750abc
Ruby Delite	151.25bc	6.000abc
Sunakku Mikan	24.75e	4.500abc
Orange Delite	141.50bcd	5.250abc
Yellow Sparkler	18.00e	11.250abc
Lemon Delite	169.75bc	6.000abc
SVPS 2971 (yellow)	144.50bcd	2.250bc
SVPS 0953 (orange)	261.25a	3.750bc
SVPS 0897 (red)	179.50bc	5.250abc
RPP 42444 (yellow)	117.00cd	17.250ab
RPP 42454 (orange)	166.00bc	20.250a
RPP 42456 (red)	208.50ab	14.250abc
UFJNICB F1	145.25bcd	17.250ab
UFCB 619	18.50e	6.000abc
UFJNI 619	8.25e	0.000c
P-value	.0001	0.0889
Significance	***	***

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

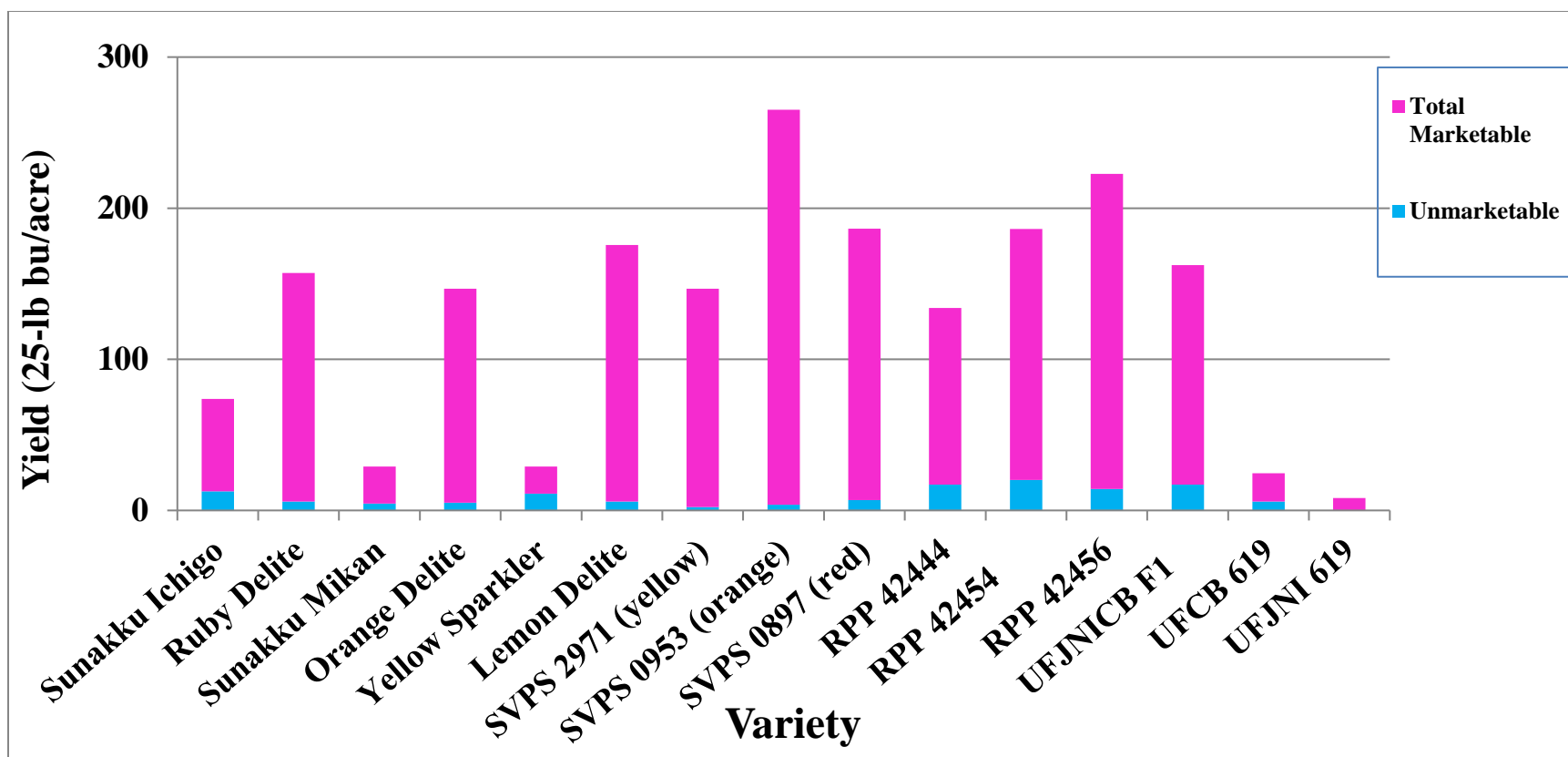


Figure 2. Second harvest marketable and unmarketable yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Table 6. Third harvest marketable and unmarketable yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Variety	Marketable	Unmarketable
	Yield (25-lb bu/acre)	
Sunakku Ichigo	45.50d ^y	24.75bc
Ruby Delite	192.00bc	4.00c
Sunakku Mikan	22.50d	19.00bc
Orange Delite	146.00c	5.25c
Yellow Sparkler	15.75d	6.75c
Lemon Delite	169.25c	4.50c
SVPS 2971 (yellow)	156.75c	21.25bc
SVPS 0953 (orange)	235.25ab	9.00bc
SVPS 0897 (red)	277.00a	3.75c
RPP 42444 (yellow)	28.50d	43.75b
RPP 42454 (orange)	27.00d	117.25a
RPP 42456 (red)	143.50c	23.75bc
UFJNICB F1	145.25bcd	34.75bc
UFCB 619	18.50e	0.00c
UFJNI 619	3.00d	2.25c
P-value	.0001	.0001
Significance	***	***

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

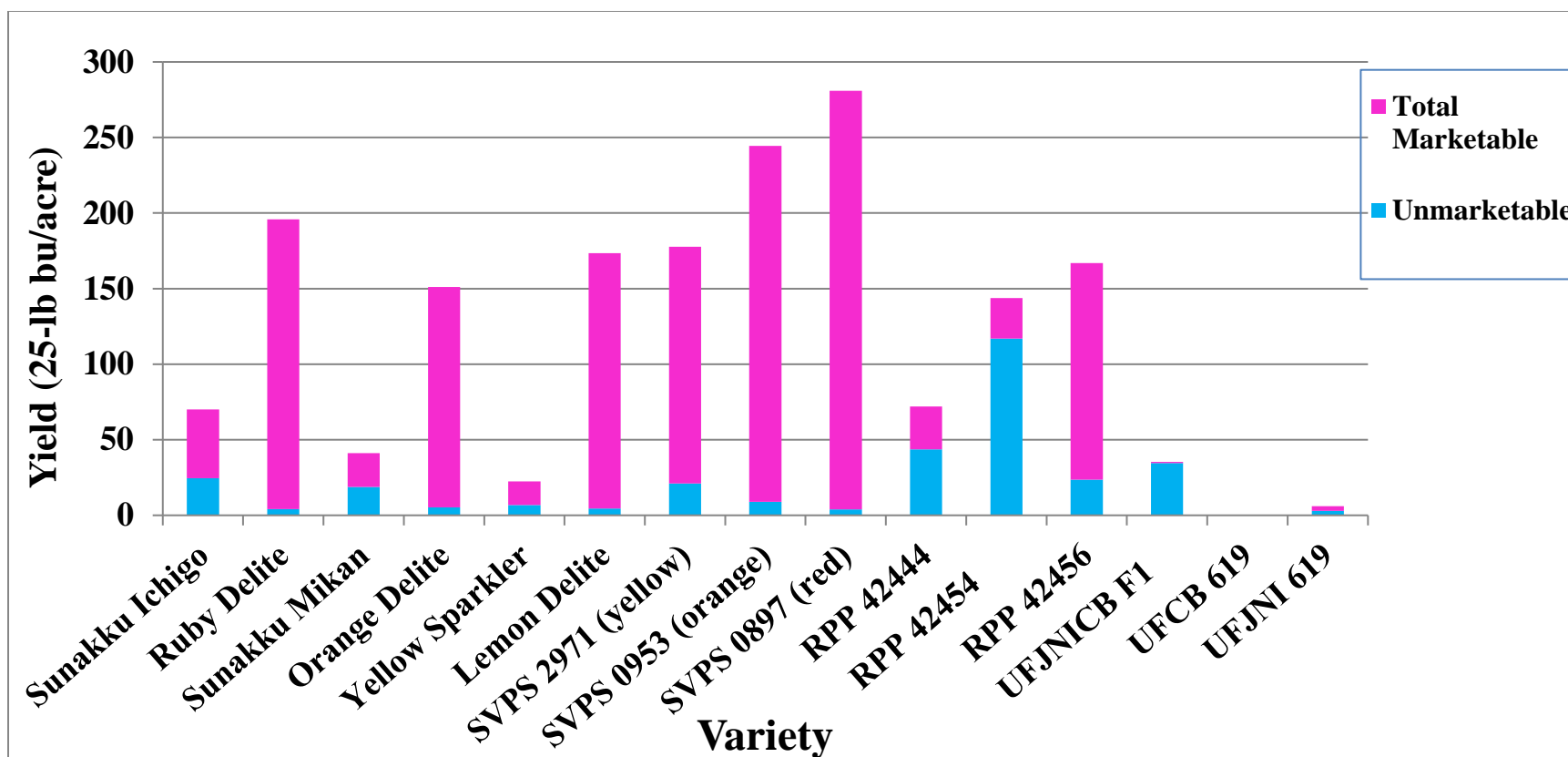


Figure 3. Third harvest marketable and unmarketable yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Table 7. Fourth harvest marketable, unmarketable, and immature green yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Variety	Marketable	Unmarketable	Immature Green
	Yield (25-lb bu/acre)		
Sunakku Ichigo	17.25 ^y	16.50cde	79.67cd
Ruby Delite	117.50bc	36.00bc	462.41a
Sunakku Mikan	2.50d	3.25e	30.53cd
Orange Delite	208.50b	20.25cde	488.47a
Yellow Sparkler	1.75d	4.75e	11.91d
Lemon Delite	149.75c	12.25cde	488.47a
SVPS 2971 (yellow)	214.50b	88.50a	343.27b
SVPS 0953 (orange)	152.00c	34.50bcd	120.63cd
SVPS 0897 (red)	320.75a	46.50b	505.59a
RPP 42444 (yellow)	0.00d	11.25de	2.61d
RPP 42454 (orange)	3.00d	7.75e	0.37d
RPP 42456 (red)	33.50d	36.00bc	140.73c
UFJNICB F1	0.00d	2.25e	0d
UFCB 619	0.25d	0.75e	0d
UFJNI 619	0.00d	3.75e	0d
P-value	.0001	.0001	.0001
Significance	***	***	***

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

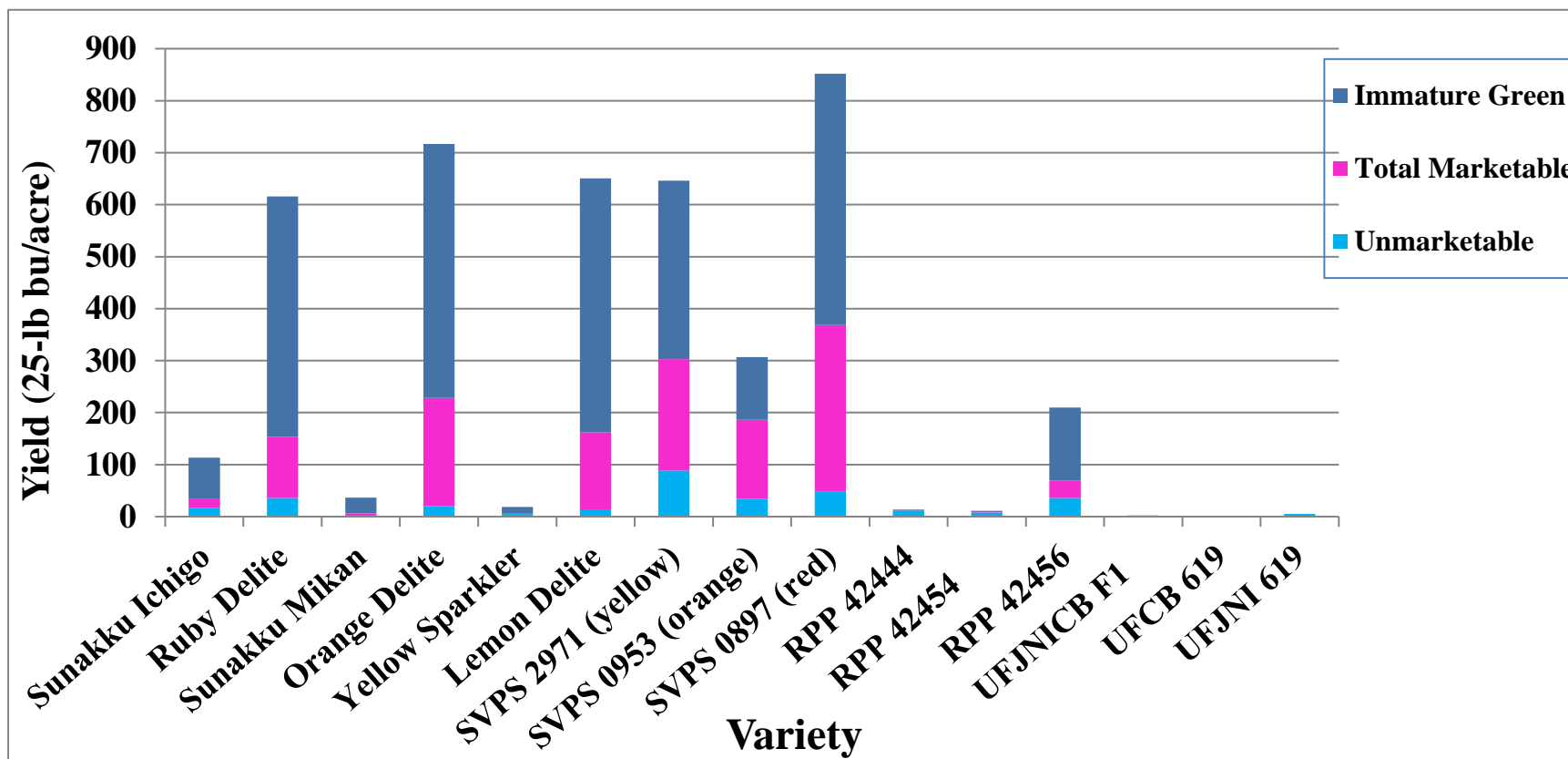


Figure 4. Fourth harvest marketable, unmarketable, and immature green yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Table 8. Total harvest marketable and unmarketable yield for selected pepper varieties grown in Bonita, FL during Fall 2020.

Variety	Marketable	Unmarketable
	Yield (25-lb bu/acre)	
Sunakku Ichigo	273.00d ^y	12.750abc
Ruby Delite	799.75a	6.000abc
Sunakku Mikan	77.50e	4.500abc
Orange Delite	893.50a	5.250abc
Yellow Sparkler	86.25e	11.250abc
Lemon Delite	790.75a	6.000abc
SVPS 2971 (yellow)	607.75b	112.75b
SVPS 0953 (orange)	897.75a	3.750bc
SVPS 0897 (red)	922.50a	5.250abc
RPP 42444 (yellow)	343.50cd	120.75ab
RPP 42454 (orange)	310.00d	161.00a
RPP 42456 (red)	465.00bc	84.50bcd
UFJNICB F1	470.75bc	91.00bc
UFCB 619	27.00e	6.000abc
UFJNI 619	29.00e	7.50g
P-value	.0001	.0001
Significance	***	***

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

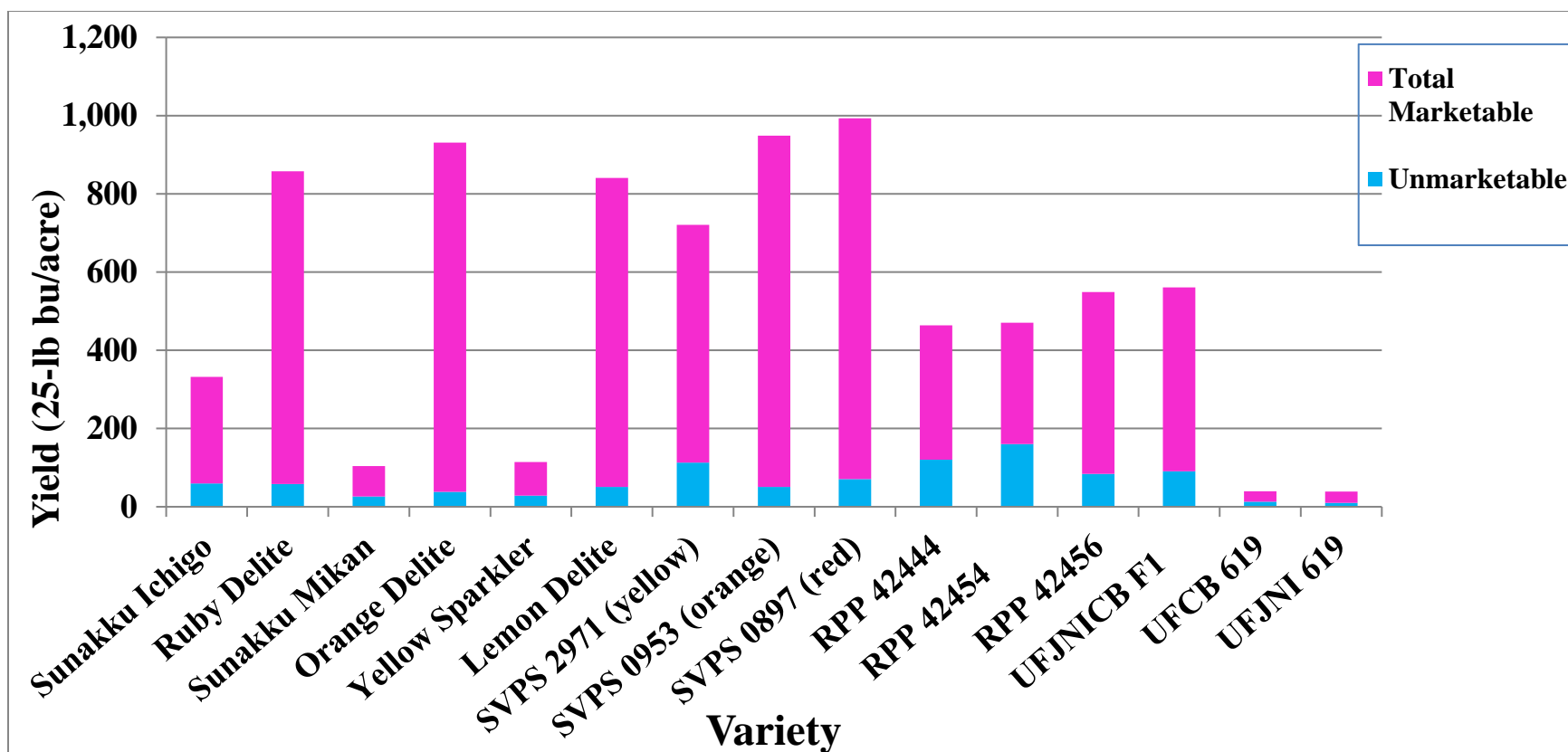


Figure 5. Total harvest marketable and unmarketable yield totals for selected pepper varieties grown in Bonita, FL during Fall 2020.

Table 9. Quality categories for selected pepper varieties grown in Bonita, Florida during Fall 2020.

Variety	Length	Width	Ratio	Seed Depth	Seed Amount	% 1-2 Lobes	% 3-4 Lobes
	(mm)						
Sunakku Ichigo	48.490ef ^z	2.9500de	17.856cd	7.751f	1.0e	83%ab	17%cde
Ruby Delite	65.070bcd	4.7000b	14.346d	24.930de	1.2de	81%a	20%cde
Sunakku Mikan	46.510f	3.3900cde	14.129d	11.040	1.0e	57%c	43%de
Orange Delite	72.530b	3.4100cde	22.091bc	20.470e	1.2de	74%a	26%bcd
Yellow Sparkler	54.450def	3.9000bcd	14.177d	14.200f	1.0e	68%c	32%de
Lemon Delite	74.900b	4.1000bc	18.810bcd	24.660de	1.3cde	83%ab	17%cde
SVPS 2971 (yellow)	48.140ef	3.3200cde	14.642d	11.370f	1.5cde	61%ab	39%b
SVPS 0953 (orange)	67.210bc	3.3100cde	20.374bcd	24.160de	1.8bc	74%a	26%bc
SVPS 0897 (red)	51.530ef	3.1500cde	16.970cd	9.400f	1.0e	53%a	47%a
RPP 42444 (yellow)	67.860bc	3.0400de	24.290b	28.700cd	2.1ab	73%bc	27%de
RPP 42454 (orange)	73.400b	3.9500bcd	18.826bcd	31.660c	2.1ab	71%c	29%de
RPP 42456 (red)	58.620cde	3.1600cde	19.258bcd	24.960de	2.4a	82%ab	18%cde
UFJNICB F1	140.610a	3.0200de	49.371a	41.420b	1.7bcd	92%ab	8%e
UFCB 619	52.414ef	23.2140a	2.271e	24.402de	1.0e	80%c	20%e
UFJNI 619	141.870a	2.7300e	53.912a	68.820a	2.2ab	76%c	24%de
P-value	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Significance	***	***	***	***	***	***	***

^zWithin columns, means followed by different letters are significantly different according to Duncan's Multiple Range Test. **, *** = Significant at $P \leq 0.01$ or 0.001, respectively. For seed amount low=1, medium=2, high=3. Immature green not reflected in data.



Figure 6. Sunakku Ichigo Quality Test.



Figure 7. Ruby Delite Quality Test.



Figure 8. Sunakku Mikan Quality Test.



Figure 9. Orange Delite Quality Test.



Figure 10. Yellow Sparkler Quality Test.



Figure 11. Lemon Delite Quality Test.



Figure 12. SVPS 2971 (Yellow) Quality Test.



Figure 13. SVPS 0953 (Orange) Quality Test.



Figure 14. SVPS 0897 (Red) Quality Test.



Figure 15. RPP 42444 (Yellow) Quality Test.



Figure 16. RPP 42454 (Orange) Quality Test.



Figure 17. RPP 42456 (Red) Quality Test.



Figure 18. NFJNICB F1 Quality Test.



Figure 19. UFJNI 619 Quality Test.

Table 10. Plant fruit totals for selected varieties.

Variety	Total Fruit		Marketable Fruit		Cull Fruit		Marketable	Cull
	no/plant	lbs/plant	no/plant	lbs/plant	no/plant	lbs/plant	% by no	% by no
Sunakku Ichigo	21	0.43	15	0.35	6	0.08	73%	27%
Ruby Delite	21	1.11	19	1.03	2	0.08	91%	9%
Sunakku Mikan	6	0.11	4	0.07	2	0.03	72%	28%
Orange Delite	22	1.20	21	1.15	1	0.05	94%	6%
Yellow Sparkler	5	0.15	4	0.11	2	0.04	68%	32%
Lemon Delite	17	1.09	16	1.02	1	0.07	93%	7%
SVPS 2971 (yellow)	26	0.93	22	0.78	4	0.15	84%	16%
SVPS 0953 (orange)	24	1.23	23	1.16	2	0.07	93%	7%
SVPS 0897 (red)	37	1.28	34	1.19	3	0.08	92%	8%
RPP 42444 (yellow)	10	0.60	7	0.44	3	0.16	69%	31%
RPP 42454 (orange)	9	0.61	6	0.40	3	0.21	64%	36%
RPP 42456 (red)	15	0.71	12	0.60	3	0.11	81%	19%
UFJNICB F1	11	0.85	8	0.71	3	0.14	75%	25%
UFCB 619	5	0.27	4	0.18	1	0.09	75%	25%
UFJNI 619	11	0.38	8	0.30	3	0.08	75%	25%

*Immature green harvest not reflected in table.



Figure 20. Sunakku Ichigo Fruit (left), Plants (Right).



Figure 21. Ruby Delite Fruit (left), Plants (Right).



Figure 22. Sunakku Mikan Fruit (left), Plants (Rig



Figure 23. Orange Delite Fruit (left), Plants (Right).



Figure 24. Yellow Sparkler Fruit (left), Plants (Right).



Figure 25. Lemon Delite Fruit (left), Plants (Right).



Figure 26. SVPS 2971 (yellow) Fruit (left), Plants (Right).



Figure 27. SVPS 0953 (orange) Fruit (left), Plants (Right).



Figure 28. SVPS 0897 (red) Fruit (left), Plants (Right).



Figure 29. RPP 42444 (yellow) Fruit (left), Plants (Right).



Figure 30. RPP 42454 (orange) Fruit (left), Plants (Right).



Figure 31. RPP 42456 (red) Fruit (left), Plants (Right).



Figure 32. UFJNICB F1 Fruit (left), Plants (Right).



Figure 33. UFJINI 619 Fruit (left), Plants (Right).