



Bell Pepper Variety Evaluation 2005



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BELL PEPPER VARIETY EVALUATION--2005
In Santa Clara County

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Bell pepper production brings in over \$12 million dollars revenue to the county of Santa Clara. Acres dedicated to bell pepper production hover around 1700 to 2200 acres over the last five years. Estimates for 2005 may be around 1500 acres.

Table 1. Bell Pepper Acreage, Production, and Return for 200-2005 in Santa Clara County.

Year	Harvested Acreage	Tons per acre	Production County-Tons	Price/Ton	Total value
2004	1,730	21	36,330.00	\$342	\$12,424,860
2003	2,241	19.8	44,371.80	\$234	\$10,383,001
2002	2,015	24.3	48,964.50	\$284	\$13,905,918
2001	1,994	24.1	48,055.40	\$335	\$16,098,559
2000	1,744	23.6	41,158.40	\$211	\$8,684,422

Source: Agricultural commissioner Crop reports 2000-2004

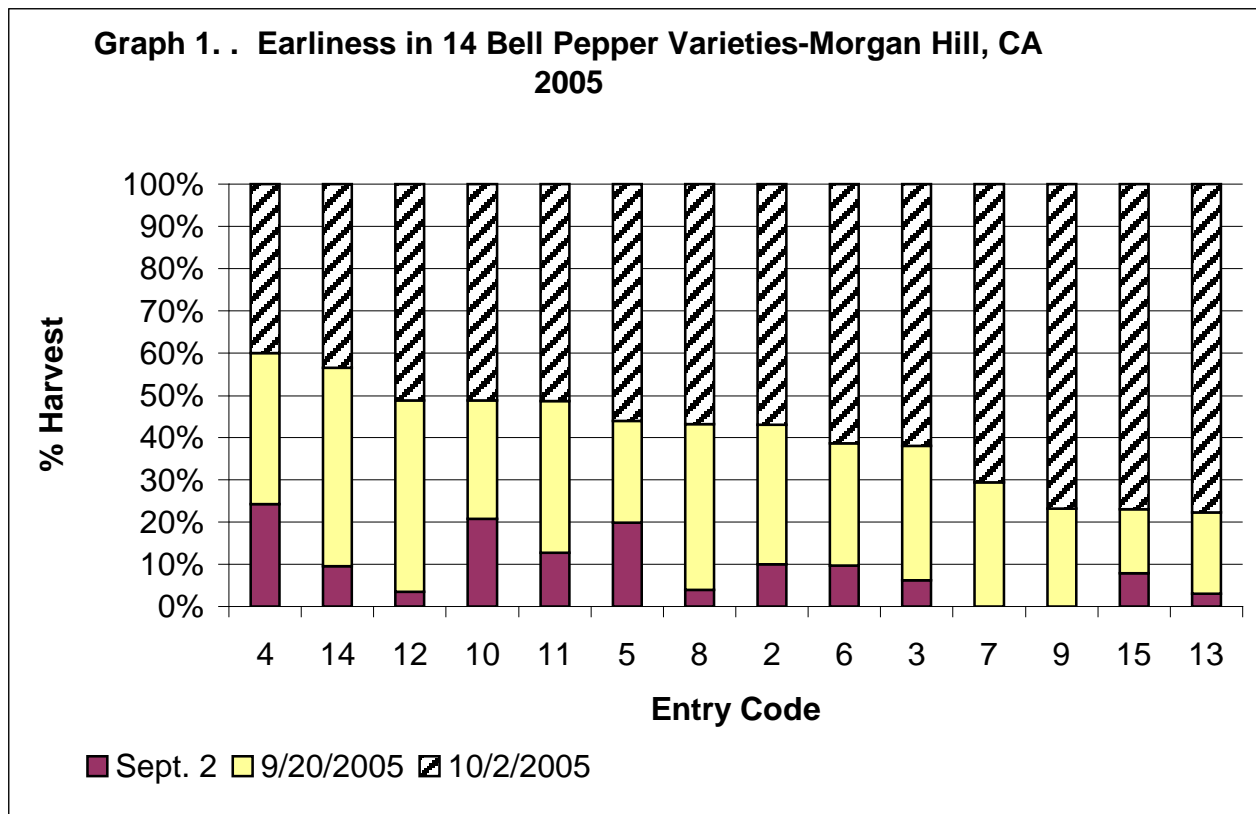
This field trial was conducted in Morgan Hill city southern part of Santa Clara County at the G. Chiala Farms. Plot was set in the field on June 10, 2005. Fifteen entries (Table 3 lists all entries and sources) were included in plots that were replicated three times. Plots were set in a jalapeno field. All beds were plastic mulched and drip irrigated. The operation manager provided all management practices.

Plants showed vigorous growth in response to adequate climatic conditions. Only mature fruit was harvested at three occasions, except entry ‘Escarlata’, that was only harvested once on the last date, on September 2, September 20, and October 10, 2005.

Earliness is assessed by the percent harvest completed by the second pick. Based on this criterion, Stiletto was the earliest producing entry in the trial (60%), followed by ‘XPP 2025’ (56%) of the harvest realized by the second pick, graph 1. Entries with almost 50% harvest

index were ‘RPP 9597’, ‘Excel’, and ‘Baron’ (49% each). On the other hand, ‘RPP 9663’, ‘Wizar’, and ‘Double up’ were the latest producers with less than 25% of the fruit harvest by the second pick. Consult Table 3 for detailed harvest percentage.

Data collection included plant height, bloom initiation date, total yield, economic yield, fruit



classes, fruit count, and fruit dimensions.

With exception of ‘Escarlata’, all entries produced blocky fruit. Encore and affinity produced that was more elongated than the rest of the entries. Table 4 gives the length and width measurement of representative fruit from different categories.

Total biological yield data, includes marketable and cull, showed Affinity significantly out producing all other entries. In addition to ‘RPP 9651’ and ‘XPP 2025’ these three entries were also the top producer of marketable fruit. At the other end of the scale, ‘Jupiter’, ‘Stiletto’, ‘RPP-9662’, and ‘RPP 9597’ had the lowest biological and economic yield.

Based on fruit classes, ‘Encore’, ‘XPP 2025’, ‘Crusader’, and ‘RPP 9597’ had 70% or more of fruit classed as jumbo or extra large. While ‘Excel’, ‘Affinity’, and ‘RPP 1690’ produced less than 50% of their fruit in the jumbo/extra large combined class.

Plant productivity data-- fruit produced per plant—showed Affinity with over 11 peppers per plant. ‘Double up’, ‘Baron’, ‘Excel’, and ‘Escarlata’ all produced over 8 fruit per plant. Lowest productive plant in this study came from ‘Stiletto’ (5.9), ‘RPP 9662’ (6), and ‘RPP 9597’ (6.2).

Fruit weight (lb/fruit) data indicated that ‘XPP 2025’ and ‘RPP 9651’ have fruit averaging over 0.5 pound, 0.52 and 0.50 respectively. ‘Jupiter’ (0.31 #) and ‘RPP 16901’ had the smallest fruit of all entries tested (Table 5).--

Bottom Line

If your goal is **tonnage**, these entries have produced 18 tons/acre and above of economically commercial fruit: Affinity, RPP 9651, XPP 2025 (Red Bell), Double-up

If you prefer **pod size**-- Encore, XPP 2025 (Red Bell), Crusader, RPP 9597 (Mercado) have produced 70% or more of their fruit in the two top categories of Jumbo and extra large (J & XL)

However, if you desire **earliness**—then Stiletto, XPP 2025 (Red Bell), Baron, RPP 9597 (Mercado), Excel (XPP1133) might be your choice, for they have produced 50% or more of their yield in first 2 harvest.

A **combination** of all three criteria,--yield, pod size, and earliness--can be found in XPP 2025 (Red Bell), followed at distance by RPP 9651, Encore, and Baron

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Table. 2. Bell Pepper Variety Seed List – Morgan Hill. 2005

Code	Entry Name	Seed Source
1	Escarlata	Syngenta/Rogers
2	Encore	Syngenta/Rogers
3	Affinity	Syngenta/Rogers
4	Stiletto	Syngenta/Rogers
5	Crusader	Syngenta/Rogers
6	Jupiter	Syngenta/Rogers
7	RPP 16900	Syngenta/Rogers
8	RPP 9650	Syngenta/Rogers
9	RPP 9661	Syngenta/Rogers
10	RPP 9597 (Mercado)	Syngenta/Rogers
11	Excel (XPP1133)	Sakata
12	Baron	Seminis
13	Double up	Sakata
14	XPP 2025 (Red Bell)	Sakata
15	Wizard	Seminis

Table 3. Production earliness expressed by harvest dates, Morgan Hill. 2005

Entry Code	Entry Name	% Harvest of total at Different Dates		
		9/2/2005	9/20/2005	10/2/2005
1*	Escarlata	--	--	100%*
13	Double up	3%	19%	78%
15	Wizar	8%	15%	77%
9	RPP 9662	0%	23%	77%
7	RPP 16901	0%	29%	71%
3	Affinity	6%	32%	62%
6	Jupiter	10%	29%	61%
2	Encore	10%	33%	57%
8	RPP 9651	4%	39%	57%
5	Crusader	20%	24%	56%
11	Excel (XPP1133)	13%	36%	51%
10	RPP 9597 (Mercado)	21%	28%	51%
12	Baron	3%	45%	51%
14	XPP 2025 (Red Bell)	10%	47%	44%
4	Stiletto	24%	36%	40%

* Entry not harvested at two first dates in expectation of red fruit



1 Escarlata



2 Encore



3 Affinity



4 Stiletto



5 Crusader



6 Jupiter



7 RPP 16900



8 RPP 9650



9 RPP 9661



10 RPP 9597
(Mercado)



11 Excel
(XPP1133)



12 Baron



13 Double up



14 XPP 2025
(Red Bell)



15 Wizard

Table 4. Fruit size of 15 Bell Pepper Varieties- Morgan Hill, CA. 2005

Entry Code	Entry Name	Jumbo		Extra Large		Large		Medium		Small	
		Length in.	Width in.	Length in.	Width in.	Length in.	Width in.	Length in.	Width in.	Length in.	Width in.
1	Escarlata	6.43	3.26	5.39	3.09	5.30	3.11	4.76	3.04	4.37	2.70
2	Encore	5.07	3.48	4.62	3.42	3.92	3.32	4.08	3.17	3.23	2.81
3	Affinity	5.07	3.48	4.62	3.42	3.92	3.32	4.08	3.17	3.23	2.81
4	Stiletto	4.04	3.86	3.62	3.73	3.38	3.54	3.28	3.38	2.96	3.09
5	Crusader	3.87	3.83	3.35	3.72	3.35	3.54	3.08	3.46	2.84	3.19
6	Jupiter	3.58	3.87	3.64	3.70	3.38	3.52	3.09	3.56	2.85	3.18
7	RPP 16901	3.55	3.96	3.40	3.72	3.08	3.59	3.03	3.43	2.94	3.19
8	RPP 9651	3.61	3.87	3.49	3.62	3.36	3.48	3.29	3.28	2.78	3.11
9	RPP 9662	3.91	3.70	3.80	3.53	3.77	3.38	3.29	3.27	2.98	3.05
10	RPP 9597 (Mercado)	4.21	3.88	3.86	3.60	4.04	3.33	3.62	3.13	3.15	2.96
11	Excel (XPP1133)	4.04	3.70	3.75	3.49	3.61	3.30	3.36	3.12	3.00	2.86
12	Baron	3.89	3.61	3.96	3.40	3.73	3.33	3.55	3.13	3.12	2.90
13	Double up	3.79	3.64	3.82	3.46	3.30	3.38	3.26	3.20	2.95	3.12
14	XPP 2025 (Red Bell)	4.20	3.70	3.75	3.51	3.12	3.45	3.11	3.31	2.92	2.88
15	Wizar	4.09	3.85	3.74	3.61	3.47	3.37	3.15	3.26	2.93	2.90

Jumbo > 250 g; XL = 200-250 g; L = 170-200 g; M = 150-170 g; S <150g

Table 5. Weight, Yield, and Percent Fruit sizes of 15 Bell Peppe Varieties. Morgan Hill, CA--2005 (ranked by Jumbo & X large)

Entry Code	Entry Name	Economic Weight-Lbs	Biological Weight-Lbs	Fruit/plant	fruit. size -- lbs	Yield T/a	% Jumbo	% X Large	% J & XL	% Large	% Medium	% Small	% Cull
3	Affinity	30.4	34	11.41	0.37	22.04	21.67	28.33	50.00	17.67	10.67	21.67	6.67
8	RPP 9651	24.9	26	7.55	0.50	20.63	35.00	33.67	68.67	11.33	6.67	13.67	5.33
14	XPP 2025 (Red Bell)	20.8	24	7.26	0.52	19.11	46.00	24.67	70.67	8.67	10.33	9.67	5.00
13	Double up	20.8	23	8.77	0.39	18.14	47.00	17.00	64.00	15.00	7.00	14.00	5.33
11	Excel (XPP1133)	18.3	23	8.37	0.45	17.75	37.00	17.67	54.67	28.00	5.00	11.67	29.00
12	Baron	19.1	21	8.41	0.35	15.83	34.67	30.00	64.67	15.00	5.67	15.33	10.00
1	Escarlata	19.6	21	8.31	0.35	15.55	40.00	19.00	59.00	11.67	7.00	22.33	8.67
2	Encore	17.3	21	7.25	0.44	15.06	60.33	16.00	76.33	7.67	4.67	11.67	12.00
15	Wizard	17.3	20	7.50	0.40	15.06	40.00	25.67	65.67	11.33	4.67	18.33	5.33
7	RPP 16901	14.9	16	7.58	0.29	13.64	14.00	22.33	36.33	26.67	24.00	13.33	8.00
5	Crusader	17.9	22	7.66	0.37	13.57	42.33	28.33	70.66	10.00	5.33	14.00	16.33
10	RPP 9597 (Mercado)	11.5	14	6.19	0.42	12.55	41.33	28.67	70.00	10.00	2.33	18.00	11.33
9	RPP 9662	13.0	14	6.03	0.35	11.29	38.33	29.00	67.33	14.33	2.33	16.00	10.00
6	Jupiter	12.9	16	7.71	0.31	11.22	27.00	34.67	61.67	13.67	6.33	18.33	20.00
4	Stiletto	12.6	16	5.91	0.41	10.94	27.00	33.33	60.33	13.00	14.67	11.67	22.00

Jumbo > 250 g; X Large = 200-250 g; Large = 170-200 g; Medium = 150-170 g; Small <150g

I	II	III
4	8	7
5	6	10
10	15	4
2	14	12
15	11	6
7	4	14
9	9	8
12	10	1
6	5	13
1	2	3
13	7	11
8	3	15
3	13	9
11	12	5
14	1	2

8 plants per plot

3 replications

W

