



**Capital District Vegetable
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Columbia, Rensselaer
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Colorful Bell Peppers – 2005 Variety Evaluations

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In 2005, for the second year in a row, we conducted a colored bell pepper variety evaluation at the Moses Farm, in Eagle Bridge, Rensselaer County. We evaluated 42 varieties, seeking peppers with a high level of disease resistance (bacterial leaf spot and Phytophthora), and that produced good yields of high quality, full-colored fruit. Pepper yields by harvest date can be found in Table 1 and fruit characteristics such as shape, color, flavor and our overall comments can be found in Table 2. Days to harvest, seed sources and disease tolerance/resistance information can be found in Table 3.

Orange Peppers

‘Orange Grande’ was a clear stand-out among the orange-fruited cultivars, with excellent yields, an attractive appearance, good size, a blocky shape, and superior eating qualities. ‘Mandarin,’ a tall (elongate), large, dark orange pepper, rates a second place with respect to overall yields, but eating qualities were among the lowest in the trial. ‘Valencia’ is our third-place pick, and is a good choice if you prefer a squat-shaped fruit. It has an attractive color, good size and thick walls, but a relatively bland flavor. Fourth place goes to ‘Oriole.’ Although yields were not as high as those in the top three, fruit size and shape were appealing, and eating qualities were excellent.

Yellow Peppers

Unlike the orange colored varieties, there were no clear stand-outs among the yellow bells, but the following four varieties may be worthy of a trial on your farm. ‘Golden Bell’ is an elongate fruit, with high yields of medium-sized peppers that have a sweet, “fruity” flavor. Its principle shortcoming is its fruit size, which is smaller than ideal. ‘Early Sunation’ is a firm, thick-walled, blocky pepper that is full flavored, but lacks sweetness. Yields were modest, but fruit size was large. ‘Lafayette,’ a large, blocky, thick-walled, relatively good-eating fruit, is our third place choice. Its chief drawback was its modest yields. The numbered variety, ‘ACR 251Y,’ is our fourth pick: its yields were modest, but it rated well with respect to size, shape, firmness, color and flavor. An honorable mention goes to ‘Labrador’ because of its high yields and excellent eating qualities. Its small fruit size has been its greatest problem, particularly in 2005.

Red Peppers

In evaluating red peppers, our emphasis has been on varieties that are resistant to bacterial leaf spot (BLS) and Phytophthora, a fungus that has become an important pest of peppers in the Capital District. ‘Aristotle’ continues to be a winner in this category. It is large and attractive, with a tall, blocky shape and firm, thick walls. It is relatively good to eat, with a full pepper flavor, and modest sweetness. The yield and size of ‘Alliance,’ our second place pick, was similar to that of ‘Aristotle’ in our trials. It had a particularly attractive cherry red color, a full flavor, and rated among the highest peppers in the trial for sweetness. ‘Revolution,’ our third

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entry in this category, yielded poorly in 2005, although it performed well in the 2004 trial. It's a large, sweet, blocky-shaped pepper. An honorable mention goes to 'Conquest,' a variety that we evaluated for the first time in 2005. It yielded fruit numbers similar to 'Aristotle,' but fruit size was slightly smaller, and fruit shape fell in the squat to blocky category. The variety had an attractive, deep, fire engine red color, good eating texture and full flavor.

We would like to take this opportunity to thank our grower host Rich Moses of Moses Farm for taking part of this trial for the last two years and the seed companies found in Table 3 for their seed donations and support. If you would like more information on purple or white bell peppers, please contact Chuck Bornt at 518-859-6213 for a copy of our 2004 Colored Bell Pepper Variety Trial where those colors were featured.

Table 1: All marketable fruit in 2005 colored bell pepper variety trial, Moses Farm, Rensselaer County

Variety	9/9 - Harvest #1			9/19 - Harvest #2			9/29 - Harvest #3			10/4 - Harvest #4 (greens)			Total Harvest		
	No.	Wt. (lb)	Av Wt. (oz)	No.	Wt. (lb)	Av Wt. (oz)	No.	Wt. (lb)	Av Wt. (oz)	No.	Wt. (lb)	Av Wt. (oz)	No.	Wt. (lb)	Av Wt. (oz)
4-Star	0	0.0	0.0	5	3.4	10.9	4	1.8	7.2	43	23.8	8.9	52	29.0	8.9
ACR 251Y	5	2.8	9.0	12	6.2	8.3	19	8.0	6.7	15	6.6	7.0	51	23.6	7.4
ACR 270	16	8.8	8.8	20	9.8	7.8	29	12.6	7.0	17	7.6	7.2	82	38.8	7.6
Alliance	0	0.0	0.0	15	12.6	13.4	21	11.8	9.0	25	12.0	7.7	61	36.4	9.5
Ariane	7	3.4	7.8	28	12.4	7.1	10	3.8	6.1	15	6.8	7.3	60	26.4	7.0
Aristotle	4	2.2	8.8	28	19.0	10.9	15	7.8	8.3	10	3.8	6.1	57	32.8	9.2
Brigadier	0	0.0	0.0	6	4.0	10.7	7	4.4	10.1	24	11.0	7.3	37	19.4	8.4
Canary	8	4.6	9.2	11	5.4	7.9	2	0.8	6.4	2	0.6	4.8	23	11.4	7.9
Conquest	8	5.0	10.0	23	14.6	10.2	21	9.6	7.3	7	3.2	7.3	59	32.4	8.8
Corvette	3	2.0	10.7	29	17.4	9.6	34	16.8	7.9	45	19.8	7.0	111	56.0	8.1
Crusader	0	0.0	0.0	5	3.2	10.2	9	6.0	10.7	28	10.8	6.2	42	20.0	7.6
Early Sunsatton	15	8.8	9.4	7	3.4	7.8	23	9.0	6.3	14	5.6	6.4	59	26.8	7.3
Enterprise	3	1.8	9.6	26	16.4	10.1	27	14.0	8.3	33	15.4	7.5	89	47.6	8.6
Gloria	2	1.2	9.6	3	2.0	10.7	2	0.8	6.4	9	3.0	5.3	16	7.0	7.0
Golden Bell	28	11.0	6.3	25	8.4	5.4	11	3.6	5.2	12	3.2	4.3	76	26.2	5.5
Golden Summer	6	2.4	6.4	14	4.8	5.5	23	7.6	5.3	27	9.4	5.6	70	24.2	5.5
Gourmet	42	16.4	6.2	32	10.0	5.0	14	4.0	4.6	8	2.2	4.4	96	32.6	5.4
Intrepid	25	12.6	8.1	8	2.6	5.2	8	2.6	5.2	1	0.4	6.4	42	18.2	6.9
Ironsides	1	0.6	9.6	15	8.4	9.0	6	2.8	7.5	11	4.2	6.1	33	16.0	7.8
Labrador	34	12.6	5.9	54	14.4	4.3	29	6.0	3.3	15	3.6	3.8	132	36.6	4.4
Lafayette	2	1.6	12.8	6	3.4	9.1	10	5.0	8.0	22	8.4	6.1	40	18.4	7.4
Legionnaire	0	0.0	0.0	2	1.6	12.8	5	2.8	9.0	9	4.0	7.1	16	8.4	8.4
Mandarin	0	0.0	0.0	10	5.0	8.0	20	7.2	5.8	88	31.6	5.7	118	43.8	5.9
Orange Grande	33	16.0	7.8	48	20.2	6.7	35	13.2	6.0	39	14.6	6.0	155	64.0	6.6
Orange Sun	17	7.8	7.3	21	7.6	5.8	11	4.0	5.8	13	4.4	5.4	62	23.8	6.1
Oriole	30	15.2	8.1	29	11.6	6.4	7	2.2	5.0	22	7.8	5.7	88	36.8	6.7
Orion	0	0.0	0.0	9	7.0	12.4	16	9.2	9.2	31	14.8	7.6	56	31.0	8.9
Patriot	0	0.0	0.0	11	6.8	9.9	23	11.4	7.9	38	16.2	6.8	72	34.4	7.6
Quantico	22	9.8	7.1	3	1.2	6.4	2	0.8	6.4	1	0.2	3.2	28	12.0	6.9
Queen	1	0.6	9.6	15	8.0	8.5	10	5.8	9.3	30	12.4	6.6	56	26.8	7.7
Red Knight	13	8.2	10.1	6	2.6	6.9	3	1.2	6.4	1	0.2	3.2	23	12.2	8.5
Revolution	2	2.2	17.6	4	3.4	13.6	1	0.6	9.6	13	5.6	6.9	20	11.8	9.4
Sentry	0	0.0	0.0	28	15.8	9.0	13	6.2	7.6	35	15.6	7.1	76	37.6	7.9
Sir Galahad	0	0.0	0.0	7	5.0	11.4	8	4.6	9.2	27	13.2	7.8	42	22.8	8.7
Socrates	8	5.4	10.8	6	3.0	8.0	3	1.2	6.4	17	6.6	6.2	34	16.2	7.6
Stiletto	0	0.0	0.0	12	6.6	8.8	16	7.8	7.8	14	5.4	6.2	42	19.8	7.5
Valencia	3	1.4	7.5	17	9.0	8.5	31	12.6	6.5	35	13.8	6.3	86	36.8	6.8
Wizard	0	0.0	0.0	12	8.0	10.7	4	2.2	8.8	28	13.8	7.9	44	24.0	8.7
Excel (XPP1133)	2	1.0	8.0	3	1.4	7.5	5	1.8	5.8	21	6.2	4.7	31	10.4	5.4

Plots measured 8' in length, and consisted of 12 plants in a double row on a plastic mulched raised bed. Plots were replicated twice. The data are averages of the two plots.

Table 2: 2005 Colored bell pepper variety trial qualitative data, Moses Farm, Rensselaer County

Variety	Total #	Total Wt. (lb)	Av Wt. (oz)	Color Range	Lobes Range	Shoulders Range	Shape Range	Firmness Range	Size Range	Av. Sweetness	Av. Pepper Flavor	Comments
ORANGE VARIETIES												
Ariane	60	26.4	7.0	O	3-4	M-H	TB, B,	M-F	M-L	2.75	3	The fruit are medium walled and a pretty orange color.
Gourmet	96	32.6	5.4	O	3-4	L-M	B-TB	S-F	S-L	3	2.5	The fruit have a good texture and color.
Mandarin	118	43.8	5.9	O	3-4	M-H	T	M-F	L-J	2.75	2.75	The fruit ripen to an attractive dark orange, but have a leathery eating texture.
Orange Grande	155	64.0	6.6	O	3-4	M	TB, B, SB	M-F	M-L	3.25	3.25	The fruit are a beautiful bright orange and have good eating qualities.
Orange Sun	62	23.8	6.1	O	3-4	M	S, B	M-F	S-L	3.5	3.25	The fruit are a pretty medium to dark orange, but thin walled. Some fruit may have an aftertaste.
Oriole	88	36.8	6.7	O	3-4	M-H	T, TB	S-F	M-L	3.25	3	The fruit are midway between Gourmet and Orange Grande in quality, thick walled, and slightly fruity.
Queen	56	26.8	7.7	O	3-4	L-M	B, TB	F	L-J	2	3.5	The fruit tend to have a cavernous blossom end. Most fruit are a nice orange when full color.
Valencia	86	36.8	6.9	O	3-4	L-H	S	M-F	S-L	2	3	The fruit are a nice bright orange, thick walled, very squat, and have a bland flavor.
RED VARIETIES												
4-Star	52	29.0	8.9	R	3-4	L	B-TB	M-F	L-J	1.75	3.5	The fruit color is not impressive. The fruit texture is leathery.
ACR 270	82	38.8	7.6	R	most 4, some 3	M	TB, B, S	M-F	most L, some M	1.75	4	The fruit are a beautiful red, fruity, and high in pepper flavor. We like it.
Alliance	61	36.4	9.5	R	3-4	H	TB	F	J	3.5	3	These are big, beautiful red peppers. The fruit are cherry to dark red and tend to be heavy in pepper flavor. We like it.
Aristotle	57	32.8	9.2	R	most 3, some 4	L-M	T, B, TB	F	L-J	1.75	3.5	The fruit are thick walled, nice looking, and not bad eating.
Brigadier	37	19.4	8.4	R	3	L-M	B-TB	M-F	L-J	2.25	3	The fruit are thick walled, blocky, and big. The fruit also have nice eating qualities (juicier and softer than other varieties).
Conquest	59	32.4	8.8	R	3-4	M-H	B	F	L-J	2.5	3.25	The fruit are attractive, a deep fire engine red, and have a nice eating texture.
Corvette	111	56.0	8.1	R	3-4	L-M	TB, B, SB	most M	L-J	2.75	3.5	The fruit are a beautiful fire engine red, consistently large, firm, crunchy, and good eating.
Crusader	42	20.0	7.6	R	4		SB	F	M-L	0.5	1.5	The fruit are fire engine red, bland, and have a tough texture. Most of the fruit are large.
Intrepid	42	18.2	6.9	R	3-4	L-M	B	S-M	S-L	3	4	Some fruit have an ugly blossom end. Most fruit are fire engine red and have a softer texture. Overall, this variety is not good.
Ironsides	33	16.0	7.8	R	3-4	M-H	B	S-F	L-J	1.75	3.5	The fruit are a deep red, fairly uniform, and on the softer side.
Legionnaire	16	8.4	8.4	O-R	3-4	M-H	B, TB	M-F	L-J	3	3	The fruit are very big and a nice red when full color.
Orion	56	31.0	8.9	R	4	M	S	F	L-J	2	3	The fruit tend to be deep red, large, squat, and have thick walls. We like it.

Variety	Total #	Total Wt. (lb)	Av Wt. (oz)	Color Range	Lobes Range	Shoulders Range	Shape Range	Firmness Range	Size Range	Av. Sweetness	Av. Pepper Flavor	Comments
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RED'S CONTINUED

Variety	Total #	Total Wt. (lb)	Av Wt. (oz)	Color Range	Lobes Range	Shoulders Range	Shape Range	Firmness Range	Size Range	Av. Sweetness	Av. Pepper Flavor	Comments
Patriot	72	34.4	7.6	R	3-4	M	S, SB, B	F	L-J	3	4	The fruit are a pretty red, attractive, tasty, and have more pepper flavor than sweetness.
Red Knight	23	12.2	8.5	R	most 4, some 3	L	B, SB	M-F	M-J	1.5	1.5	The fruit are attractive, but have an unusual flavor.
Revolution	20	11.8	9.4	R	4	M-H	B, TB	M-F	J	3.5	2	Fruit are attractive - blocky and fairly thick walled.
Sentry	76	37.6	7.9	R	3-4	M	S	S-F	M-J	1.5	3.5	The fruit tend to be large and very peppery in flavor.
Sir Galahad	42	22.8	8.7	R	3-4	L-M	SB, B	F	L-J	2.25	3.5	The fruit are thick walled, firm, a pretty brick red, large, and have few seeds. We like it.
Socrates	34	16.2	7.6	R	3-4	L-H	SB, TB	M-F	M-L	2.25	3	The fruit are a nice red color and very firm.
Stiletto	42	19.8	7.5	R	4	M	SB	F	L-J	0.5	3.5	The fruit are an attractive deep red, variable in shape, and firm.
Wizard	44	24.0	8.7	R	3-4	L-M	B	F	L-J	2.25	3.75	The fruit are dark red, very firm, thick walled and heavy in pepper flavor.
Excel (XPP 1133)	31	10.4	5.4	R	most 4, some 3	M	B, TB	M-F	M-J	2.25	3.25	Most fruit have blossom end rot. The fruit are dark red, very firm, and crispy.
Enterprise	89	47.6	8.6	R, O-R	3-4	L-M	S, SB	F	L-J	2	3.25	The fruit are red to dark orange, even when fully ripe. Most fruit are very squat. Regarding flavor, the fruit are initially sweet, then peppery.

YELLOW VARIETIES

ACR 251Y	51	23.6	7.4	Y	3-4	M	B	F	L-J	2.5	3.5	The fruit tend to be on the heavy side.
Canary	23	11.4	7.9	Y	3-4	M-H	TB, B, SB	M-F	M-L	2	2.5	The fruit are attractive and have a nice eating texture, but are somewhat bland.
Gloria	16	7.0	7.0	Y	3-4	M-H	B, TB	M-F	L-J	1.25	3.25	The fruit are firm, thick skinned, crunchy, and bland in flavor. Most fruit have a nice yellow color.
Golden Bell	76	26.2	5.5	Y	3-4	M-H	T	S-M	M-L	3.25	3.38	Most fruit are chewy, thick skinned, and fruity in flavor. They are also tall and light in weight.
Lafayette	40	18.4	7.4	Y	most 4, some 3	M	TB, B, SB	S-F	L-J	2.75	2.75	The fruit are very thick walled, crispy, and have a good eating texture. Otherwise, the fruit are bland in flavor. The fruit may be good for stuffing.
Early Sunation	59	26.8	7.3	Y, Y-O	3-4	M	SB, B	M-F	M-J	1.75	3.25	The fruit are very firm, thick walled, juicy, slightly fruity, bland, peppery, and not very sweet.
Labrador	132	36.6	4.4	Y, Y-O	most 4, some 3	L-M	SB, B, TB	S-F	S-M	2.38	4.25	The fruit are a nice yellow-orange color, full flavored, crisp, and initially sweet, then peppery. Most fruit are small or too small.
Golden Summer	70	24.2	5.5	Y-O	3-4	M	T, TB, S	S-M	S-L	1.75	4	The fruit are a nice yellow orange color, but thin walled and chewy. This variety is not recommended.
Quantico	28	12.0	6.9	Y-O	3-4	M-H	B, S	M-F	S-L	1	4	The fruit are very peppery, but not very sweet. One plot was somewhat stunted (close to the road).

Color: R=red, O=orange, Y=yellow; Shoulder: L=low, M=medium, H=high; Shape: S=squat, SB=squat block, B=blocky, TB=tall block, T=tall; Firmness: S=soft, M=moderate, F=firm; Size: S=small, M=medium, L=large, J=jumbo

Table 3: 2005 Colored bell pepper days to maturity, seed source and disease tolerance/resistance.

Table 3: 2005 Colored bell pepper days to maturity, seed source and disease tolerance/resistance.

Variety	Days to		Source	Disease Tolerance/Resistance
	Harvest	Color		
Orange Varieties				
Ariane Hybrid	68	orange	Tomato Growers Supply	na
Gourmet	65	orange	Johnny's Selected Seeds	TMV.
Mandarin	75	orange	Rupp Seeds, Inc.	TMV.
Orange Grande	76	orange	Stokes Seeds Inc.	Tolerant to TMV
Orange Sun	75	orange	Holmes Seed Company	TMV
Oriole	74	orange	Stokes Seeds Inc.	Some TMV tolerance
Queen	68	orange	Seedway	TMV.
Valencia	70	orange	Siegers Seed Company	TMV.
Red Varieties				
4-Star	75	red	Rupp Seeds, Inc.	BLS 1,2,3, PMV, PVY, S, TEV, TMV
ACR 270	72	red	Rupp Seeds, Inc.	BLS 1,2,3, TMV, PVY
Alliance	73	red	Stokes Seeds Inc.	BLS 1,2,3, Phytophthora, CMV, PVY, PMV.
Aristotle X3R	72	red	Seminis	BLS 1,2,3 and PVY, some Phytophthora tolerance
Brigadier	71	red	Siegers Seed Company	BLS 1,2,3 and PVY.
Conquest	70	red	Harris Seeds	Phytophthora, virus tolerance CMV, PMV, PVY, TMV
Corvette	75	red	Rupp Seeds, Inc.	BLS 1,2,3.
Crusader	75	red	Siegers Seed Company	BLS 1,2,3, PVY, TMV, PMV.
Enterprise	72	red	Stokes Seeds Inc.	BLS 1,2,3
Intrepid	67	red	Stokes Seed Company	BLS 1,2,3.
Ironsides	65	red	Siegers Seed Company	BLS 1,2,3
Legionnaire	75	red	Siegers Seed Company	BLS1,2,3, Stip, TMV
Orion	75	red	Rupp Seeds, Inc.	BLS 1,2,3, TMV
Patriot	70	red	Seedway	BLS 1,2,3.
Red Knight X3R	63	red	Seminis	BLS 1,2,3, PVY and TMV.
Revolution	75	red	Harris Seeds	Tolerant to BLS 1,2,3, CMV and Phytophthora.
Sentry	70	red	Siegers Seed Company	BLS 1,2,3.
Sir Galahad (X3R)	73	red	Seminis	BLS 1,2,3 resistant.
Socrates X3R	65	red	Seminis	BLS 1,2,3.
Stiletto	72	red	Seedway	BLS 1,2,3, TSWV
Wizard X3R	75	red	Seminis	BLS 1,2,3 and TMV.
Excel (XPP 1133)	75	red	Sakata	na
Yellow Varieties				
ACR 251Y	72	yellow	Rupp Seed Inc.	BLS 1,2,3, TMV, PVY
Canary	72	yellow	Stokes Seeds Inc.	TMV
Early Sunsatation	70	yellow	Rupp Seed Inc./Seminis	BLS 1,2,3.
Gloria	73	yellow	Seedway	BLS 1,2 and Stip
Golden Bell	68	yellow	Harris Seeds	na
Golden Summer	67	yellow	Holmes Seed Company	na
Labrador	60	yellow	Johnny's Selected Seeds	TMV and PVY.
Lafayette	72	yellow	Siegers Seed Company	BLS 1,2,3 and Stip
Quantico	68	yellow	Stokes Seed Company	BLS 1,2,3.

Disease Key: BLS 1,2,3 = Bacterial Leaf Spot Strain 1,2 & 3, TMV = Tobacco Mosaic Virus, PVY = Potato Virus Y, TSWV = Tomato Spotted Wilt Virus, TEV = Tobacco Etch Virus, PMV = Pepper Mottle Virus, CMV = Cucumber Mosaic Virus, Stip = physiological disorder in which gray-brown to greenish spots occur in the wall of the pepper, most noticeable when the fruit ripens. NA = no disease tolerance/resistance reported