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PEPPER VARIETY TRIALS 2013

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2013 Pepper Variety Trial

In 2013 we trialed 18 pepper varieties at the Gardiner Crops Research Farm at URI. Ten varieties were standard green-to-red bell peppers suited to any market. Of the remaining varieties three were thin-walled frying peppers, two were miniature peppers, and three were variously colored specialty bell peppers. All of the entries were started in the URI greenhouse in mid April, and transplanted to the field in early June. Fertility was provided by a cover crop of hairy vetch incorporated prior to planting, fertilizer applied prior to bed formation, and regular fertigation with Organic Gem 3-3-0.3. Plants were planted in a single row on 3-ft plastic covered raised beds and individually staked. There were no insect or disease problems severe enough to require treatment. Culled fruit was primarily due to mechanical damage and sunscald. Insect damage to the fruit consisted of scars from stink bug feeding, and holes from caterpillar feeding. A few varieties suffered losses to bacterial soft rot, particularly late in the season. Harvest began on August 14 and continued until October 21.

Standard Green-to-Red Bell Peppers

The standard green peppers were primarily harvested green, with only a few plants per variety left to ripen to red. Peppers were harvested approximately once per week, with only mature-sized fruit picked each time. Fruit were sorted into marketable and cull, counted, and weighed. Yields are reported on a per-plant basis. **Sprinter** and **Declaration** had the highest yields. Sprinter produced more marketable fruit and fewer culls, but the fruit were smaller so the marketable weight per plant was higher for Declaration. Fruit color and shape were similar. Sprinter has excellent leaf cover; plants of Declaration were smaller and tended to flop but neither variety had problems with sunscald. Declaration produced the highest early yields, with over one fruit per plant at the first two harvests. **Olympus** and **Aristotle** were the most consistent producers of large fruit, averaging just under 8 ounces apiece. **Vanguard** was slightly smaller on average at only 7 ounces, but produced the largest individual fruit with some weighing an entire pound. Vanguard had the best combination of architecture and leaf cover. Olympus had good architecture but a tendency to sunscald and problems with bacterial soft rot, while Aristotle plants were smaller and floppier than Declaration. Aristotle also yielded poorly. **Currier** and **Revolution** had the darkest green fruit.

Variety	Fruit size (oz)	Mktble. Fruit	Cull Fruit	Pct. Cull	Mkt. Weight (lbs)
Sprinter	5.45	13.6	1.5	10	4.6
Declaration	6.24	12.4	1.9	13	4.8
Currier	6.58	9.8	1.5	13	4.0
Vanguard	7.02	8.2	1.8	18	3.6
Revolution	6.63	8.1	1.1	12	3.3
Karma	5.70	7.6	1.3	15	2.7
Olympus	7.82	7.4	1.4	16	3.6
Yankee Bell	4.83	7.3	0.6	8	2.2
King Crimson	4.01	7.2	1.7	19	1.8
Aristotle	7.64	4.0	0.8	16	1.9

Colored Specialty Bell Peppers

Colored specialty bell peppers are characterized by immature fruit colors other than the standard green, and/or mature fruit colors other than red. They do still have the standard thick-walled bell fruit shape. We trialed three varieties in 2013. **Sweet Sunrise** is a dark green pepper that ripens to bright yellow. **Islander** has light purple skin and yellow flesh when immature, and ripens to a scarlet red. **Iko Iko** is highly variable. The immature fruit segregates for either pale yellow or light green, and separately for the presence of a purple blush which covers variable amounts of the fruit surface. As a result, the immature fruits range in color from pale yellow to solid purple. Mature fruit colors include bright yellow, orange, bright red, and a very pretty scarlet red. Islander yielded the most, and Iko Iko the least. The Iko Iko plants were floppy, with very brittle branches that tended to snap under the weight of the fruit, leading to significant losses. It was also more prone to soft rot and sun scald than the other varieties. Sweet Sunrise and Islander had good foliar coverage of the fruit, resulting in minimal sun scald. Despite its many weaknesses, Iko Iko was easily the prettiest pepper in the trial, and may be a productive variety with a different trellising system.

Variety	Fruit Size (oz.)	Mktble. Fruit	Cull Fruit	Pct. Cull	Mkt. Weight (lbs)
Sweet Sunrise	5.13	9.5	1.3	12	3.0
Iko Iko	4.89	7.9	2.0	20	2.4
Islander	4.76	10.3	1.3	11	3.1

Thin-Walled Frying Peppers

We trialed three varieties of thin-walled frying peppers. These were harvested at maturity for sale as colored peppers. **Oranos** is a long, bright orange Italian pepper with a pointed tip. **Belcanto** is bright red, blocky Italian pepper. **Sweet Chocolate** ripens a dark red-brown; fruit vary from pointed to blunt with long peduncles. It is technically a bell pepper, but is much longer than standard bell peppers and has thinner walls, only slightly thicker than the Italian peppers. Belcanto yielded significantly better than the other varieties. Most culls in Belcanto and Sweet Chocolate were due to sun scald, while culls in Oranos were due to size or uneven ripening.

Variety	Fruit Size (oz.)	Mktble. Fruit	Cull Fruit	Pct. Cull	Mkt. Weight (lbs)
Belcanto	2.87	23.3	3.1	12	4.2
Oranos	1.96	20.7	1.6	7	2.5
Sweet Chocolate	2.66	11.6	1.6	12	1.9

Miniature Peppers

Miniature, bite-sized sweet peppers are a very popular new vegetable. In 2013, we trialed two varieties, Lunchbox and Cupid. **Cupid** is a miniature red bell pepper, although the fruit was often pointed rather than bell-shaped. **Lunchbox** is actually a mixture of three lines, one with red fruit, one with yellow fruit, and one with orange fruit. The lines differed in fruit shape, fruit size, and maturity as well as color. **Cupid**

is an excellent variety. The leafy, sturdy plants produced large numbers of sweet, bright red, easily harvested fruit. Fruit size averaged one ounce. The plants did have a tendency to produce some extremely tiny fruit that resembled cherry peppers in shape. These “micro” peppers were attractive and flavorful, and could be worth harvesting for the right market. **Lunchbox** was a disappointment. The first fruit ripened 10 days later than Cupid, and we had been harvesting Cupid for a month before all three colors of Lunchbox were yielding well. Lunchbox yielded less than one third what Cupid produced, and the fruit were more difficult to pick. The cull rate was also higher, mostly due to soft rot in the yellow fruit. Finally, the variation in fruit size and shape between colors meant that Lunchbox did not present well as a mixed pack.

Variety	Fruit Size (oz.)	Mktble. Fruit	Cull Fruit	Pct. Cull	Mkt. Weight (lbs)
Cupid	0.98	41.4	1.2	3	2.5
Lunchbox	0.71	14.9	0.8	5	0.7

Seed Sources

Variety	Source	Variety	Source
Aristotle	Harris	Belcanto*	High Mowing
Currier	Harris	Oranos*	High Mowing
Declaration	Harris	Sweet Chocolate*	Johnny’s, High Mowing
Jupiter*	High Mowing	Cupid*	Johnny’s
Karma	Harris	Lunchbox	Johnny’s
King Crimson*	High Mowing	Sweet Sunrise*	Johnny’s
Olympus*	High Mowing, Johnny’s	IkoIko*	High Mowing
Revolution	Harris	Islander	Johnny’s
Sprinter*	High Mowing, Harris		
Vanguard	Harris		
Yankee Bell*	Johnny’s		

*Organic seed