

## Evaluation of Specialty Vegetable Crops and New Cultivars – 2004

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### Objectives:

- 1). To test ten new crops in Ohio for yield and fruit/plant characteristics focusing on the Asian and Latino markets.
- 2). To test 5 newly released cultivars to evaluate fruit characteristics and yield potential under Ohio growing conditions.

### Methods and Materials:

The following ten specialty crops were tested at the North Central Agricultural Research Station (NCARS), in Fremont Ohio:

'Purple Jalapeno' jalapeno pepper	'Thai Green' Asian eggplant
'Jaloro' yellow jalapeno pepper	'Big Chili' chili pepper
'Tiburón' ancho pepper	'Sun Jewel' Asian melon
'San Martin Hybrid' ancho pepper	'Cucamelon' cucumber
'Pingtung Long' Asian eggplant	'Kakai' pumpkin

Pepper and eggplant varieties were seeded into 200-cell plug trays on April 1, 2004. Transplants were grown in the NCARS greenhouse in Fremont. Crops were established in the field on raised beds with black plastic mulch and trickle irrigation on May 25, 2004. All crops were replicated 4 times. Raised beds were spaced 5' apart with an in-row plant spacing of 18 inches.

Asian melons and pumpkin were seeded on May 5, 2004 into 50-cell plug trays. Pumpkins and melons were established in the field on June 21 into flat ground with black plastic mulch. Rows were spaced 7.5 feet apart with in row plant spacing of 3 feet. Pumpkins were reseeded directly in the field on July 2, 2004, due to poor germination from the first planting.

The following new cultivar releases were also tested at NCARS during the 2004 growing season:

'Pink Beauty' tomato  
'Revolution' bell pepper  
'Bonbon' buttercup squash  
'JSS Butternut F1' butternut squash  
'JWS 6858 F1' butternut squash

Tomato and bell pepper cultivars were seeded into 200-cell plug trays on April 1, 2004. They were established in the field on May 25, 2004 into raised beds with black plastic

mulch and trickle irrigation. Rows were spaced 5 feet apart with in-row plant spacing of 18 inches.

Squash varieties were seeded on May 5 into 50-cell plug trays. They were established in the field on June 21 into flat ground with black plastic mulch. Rows were spaced 7.5 feet apart with in-row plant spacing of 3 feet.

## **Results and Discussion:**

### **New /Specialty Crops (Table 1)**

'Purple Jalapeno': Fruit was harvested 3 times on August 24, September 9 and September 16. Average fruit size was .06 lbs. Marketable yield was 7.4 T/A with 0.2 T/A culled fruit. Fruit is dark purple before turning red when fully mature and has the same heat level as standard green jalapenos. Attractive color for use in salsas and for pickling.

'Jaloro': This first true yellow jalapeno pepper is bright yellow then matures to orange and then red. This cultivar was developed at the Texas Agricultural Extension Service. Peppers have the same heat level as regular green jalapenos. Plants are resistant to six viruses that threaten peppers. Fruits were harvest twice on September 2 and September 16. Average fruit size was .06 lbs. Marketable T/A was 14.4 T/A with 1.4 T/A culled fruit. Nice specialty pepper edible in the yellow, orange or red stages of maturity.

'Tiburón': This poblano pepper (also referred to as fresh ancho pepper) produces conical or truncated shaped dark green to black peppers that have indented shoulders. When the green pods are used fresh (poblano) they can be roasted and peeled and preserved by canning or freezing. Fresh green poblanos can also be stuffed and baked (chile rellenos). When the fruits are allowed to further mature to red or dark red, they are typically dried (ancho) and ground into chili powder and used in Mexican sauces called moles. This variety has a medium heat rating and thick walls. 'Tiburón' has heavy foliage providing a good canopy cover which helps eliminate sunscald on fruits. Fruits were harvested on August 24 and September 16. Marketable yield was 15.2 T/A with 1.3 T/A culled fruit. Average marketable fruit size was 0.25 lb.

'San Martin Hybrid': This new variety is also a poblano when harvested green, turning to an ancho when allowed to turn dark red and is dried. Plants were harvested twice on August 24 and September 16. Marketable yield was 14.1 T/A with 0.8 T/A of culled fruit. Average marketable fruit size was 0.22 lb.

'Big Chili II': This Anaheim chili pepper is mildly hot, measuring 7" long. Fruits can be harvested green or mature red. Its shape is the traditional semi-flattened traditional Anaheim shape. Plants are strong and tall enough to hold the fruit upright and off the ground. Plants were harvested once on September 16. Marketable yield was 15.5 T/A with 2.0 T/A culled fruit.

'Pingtung Long': this Asian eggplant has dark, shiny lavender skin. Fruits average 12 inches in length and up to 2 inches in diameter. Fruits are straight or slightly curved.

Wind scarring from the leaves was the major problem with this crop, typically of most eggplant varieties. Fruits were harvest three times on August 10 and 24, and September 2. Marketable yield was 3.9 T/A with an average fruit size of 0.33 lbs. There was 2.3 T/A of culled fruit, mainly from severe wind scarring. Fruits have a mild, non-bitter flavor.

'Thai Green': This Asian eggplant has light green skin and is used extensively in Thai cuisines. Fruits measure up to 12 inches long and have a thin tender skin that does not need peeling. Plants were harvested 3 times on August 24, September 2 and 16. Marketable yield was 8.2 T/A with an average fruit size of 0.36 lbs. Culled fruit, due mostly to wind scarring damage was 3.7 T/A.

'Sun Jewel': This unusual Asian specialty melon is oblong and bright yellow with shallow white sutures. Flesh is white, sweet and crisp when ripe. Vines are vigorous and lush. At maturity, melons easily slip off the vines. Fruit is approximately 7-8 inches long and 3-4 inches in diameter. Fruits were harvested twice on August 16 and August 24. Average fruit weight was 1.6 lbs each. Marketable yield was 8.7 T/A with 3.8 T/A of culled fruit mainly due to ground rot or splitting due to recent heavy rainfall between harvests.

'Kakai': This ornamental pumpkin is orange with dark green/black stripes. Vines are bush-type and compact. This variety is known for its unusual large, hullless seeds, which can be eaten fresh or roasted. 'Kakai' is a variety of the Austrian type pumpkins grown for pumpkin seed oil. This is a novelty item that works well with other fall decorations. We reseeded this variety due to poor germination from the first planting. Seeds we received were not treated. However, treated/film-coated seed is available in larger quantities. Average fruit weight was 8.7 lbs. Due to reseeding on July 2, all fruits were not fully orange and striped at harvest on October 4, but all vines were killed due to frost. Marketable yield was 9.3 T/A with 0.5 T/A culled fruit due to ground rot.

'Cucamelon': Very unusual miniature cucumber that looks like a miniature watermelon but has the taste of a cucumber. Skin is white with green striping. Fruit develop on lacy, lush vines that require trellising to keep developing fruit off the ground and to aid in harvesting. These "cherry" size cucumbers are edible and require no peeling. Novelty item to add to salads or to vegetable trays. Tiny fruit measure 1" x .5". Prolific plants with numerous fruits. Yield from three trellised plants weighed 12.6 lbs. Plant spacing in row was 3' between plants, but we recommend at least 5-6 feet between plants.

### **New Cultivar Releases (Table 2)**

'Pink Beauty': This fresh market tomato has pinkish/red skin 6-7 oz. fruit on large indeterminate vines. Good tomato flavor and uniform fruit size. There were no disease problems with this variety. Fruits were harvested 3 times on August 24, September 2 and 16. Marketable yield was 30.9 T/A with 7.2 T/A culled fruit. Nice addition to fresh market sales.

'Revolution': 4-lobed bell pepper had excellent fruit set, especially early in the season. Fruits are green that mature to red. Large, blocky thick walled, firm peppers were

harvested three times on August 10 and 24, and September 16. Average fruit weight was 0.66 lbs. Marketable yield was 11.9 T/A with 1.9 T/A culled fruit mainly due to blossom end rot and sunscald. No virus, bacterial spot or phytophthora problems were seen in this variety.

'Bonbon': One single rep observation of this buttercup squash was planted in 2004. This variety is newly released and was bred by Rob Johnston, Jr., Johnny's Selected Seeds. Dark green smooth skin with a gray button at the base of the fruit. Bright, deep orange, thick flesh is smooth and sweet. Vigorous vine growth and consistent fruit size. Plants were harvested on September 9. Average marketable fruit size was 3.8 lbs. Marketable yield was 15.3 T/A with 1.7 T/A culled fruit.

'JSS Butternut F1': One single rep observation of this butternut squash was planted. This winter squash had vigorous vine growth. Fruits have dark beige skin and bright orange flesh. Average fruit weight was 2.0 lbs. Marketable yield was 11.1 T/A with 3.5 T/A culled fruit mainly due to cracked or rotted fruit.

'JWS 6858 F1': One single rep observation of this cultivar was planted in 2004. This squash is very similar to 'JSS Butternut F1' with a slightly larger average fruit size of 2.4 lbs. Fruit has beige skin with bright orange flesh. Vigorous vine growth. Marketable yield was 12.4 T/A with 3.1 T/A culled fruit due to rotten or cracked fruit.

**Table 1. New/specialty crops grown at NCARS, Fremont, OH, in 2004.**

<b>Crop</b>	<b>Cultivar</b>	<b>Seed Source</b>	<b>Days to Maturity</b>	<b>Marketable T/A</b>	<b>Cull T/A</b>
Jalapeno Pepper	'Purple Jalapeno	TGS	75	7.9	0.2
Jalapeno Pepper	'Jaloro'	TGS	70	14.4	1.4
Poblano/Ancho pepper	'Tiburón'	JS	65 grn/85 red	15.2	1.3
Poblano/Ancho pepper	'San Martin Hybrid'	TGS	75	14.1	0.8
Anaheim chili pepper	'Big Chili II'	JS	70 grn/90 red	15.5	2.0
Asian eggplant	'Pingtung Long'	Seed Savers Exchange	65-75	3.9	2.3
Asian eggplant	'Thai Green'	Seed Savers Exchange	70-80	8.2	3.7
Asian melon	'Sun Jewel'	JS	68	8.7	3.8
Pumpkin	'Kakai'	JS	100	9.3	0.5
Cucumber	'Cucamelon'	Underwood Gardens	80	*12.6 lbs from 3 plants	*0.01 from 3 plants

**Table 2. New cultivars tested at NCARS, Fremont, OH, in 2004.**

<b>Crop</b>	<b>Cultivar</b>	<b>Seed Source</b>	<b>Days to Maturity</b>	<b>Marketable T/A</b>	<b>Cull T/A</b>
Tomato	'Pink Beauty'	JS	74	30.9	7.2
Bell Pepper	'Revolution'	ST	75	11.9	1.9
Buttercup Squash	'Bonbon'	JS	95		
Butternut Squash	'JSS Butternut F1'	JS	-	11.1	3.5
Butternut Squash	'JWS 6858 F1'	JS	-	12.4	3.1

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