

Poblano Pepper Cultivar Evaluation for North Florida in the Spring of 2004

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Introduction

Florida is a leader in the production of bell pepper with 15,000-20,000 acres grown annually. Smaller acreage of specialty pepper is also grown in Florida. Increased interest in specialty crops, including several types of specialty peppers (Photo 1), provides new opportunities for Florida growers. Specialty peppers include: jalapeno, cubanelle, long hot cayenne, finger hots, habenero, and southwestern chili types, to mention a few. One other specialty type is the poblano pepper, used for “stuffing pepper” recipes. These peppers are called poblano when used as a fresh product or anchos when dried. Poblano pepper varieties vary in intensity from medium to hot. This trial was conducted to evaluate the yield performance and fruit characteristics of four poblano pepper cultivars in north Florida.

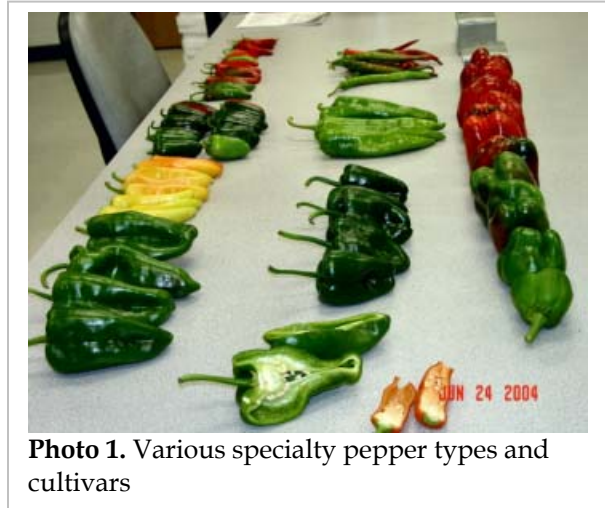


Photo 1. Various specialty pepper types and cultivars

Materials and Methods

Plots were established on a Lakeland fine sand at the University of Florida, North Florida Research and Education Center – Suwannee Valley near Live Oak, Florida. Soil was prepared by rototilling to a depth of eight inches. The soil was fertilized with 500 lbs/A of 13-4-13 (N-P₂O₅-K₂O) with micronutrients. Fertilizer was applied to the soil and was incorporated by rototilling prior to bed formation. Beds were formed on 5-ft centers, pressed, and fumigated with a methyl bromide and chloropicrin mixture (67:33) at a rate of 400 lbs per treated acre on 15 March 2004. Drip irrigation tape was laid in the center of the bed surface and the bed was covered with black polyethylene mulch. The final bed dimensions were 32 inches wide and 6 inches high. The remaining N and

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K₂O required for the season was applied via weekly injections of 7-0-8 (N-P₂O₅-K₂O) solution through the drip irrigation system. Season total for N and K₂O was 180 lbs/A.

Plots 20 ft in length were established on 29 March 2004, by transplanting peppers, two rows per bed. The two rows were 12 inches apart on the bed and plants within each row were also 12 inches apart. Pepper cultivar treatments were replicated four times and plots were arranged in a randomized complete block design. The crop was supported during the season with wooden stakes and string on the outer edges of the beds (Photo 2). Weekly applications of insecticide and fungicide were made during the season. Drip irrigation schedule was set to maintain soil moisture at a level of -8 to -12 centibars at a 12 inch depth.



Photo 2. Specialty pepper plants supported by stakes and string.

Plots were harvested on 21 and 28 June 2004. Fruit was graded into one of two categories, marketable or cull. Culls included defects such as blossom end rot. A subsample of 10 fruit from each plot on the first harvest date, 21 June 2004, were used for other measurements including fruit width, fruit length, and fruit color ratings. Fruit color rating was made on a scale of 1-5, 1=light or pale green, 3=medium green, but no blackish-green tint, 5=very dark green nearly blackish-green. Data were

subjected to analysis of variance procedures and means separation by Duncan's multiple range test.

Results and Discussion

Early pepper yield (21 June harvest) ranged from 10,444 to 18,350 lbs/A (Table 1). Top early yield was found with 'Ancho Villa' and 'Ventura'. There was no significant difference in early cull yield. Essentially all early cull yield was due to blossom end rot. The second harvest results show 'Ancho Villa' was the top producer and was significantly higher on that date (28 June 2004) than the other three cultivars. The highest seasonal yield was found in 'Ancho Villa' at 30,242 lbs/A followed by 'Ventura' at

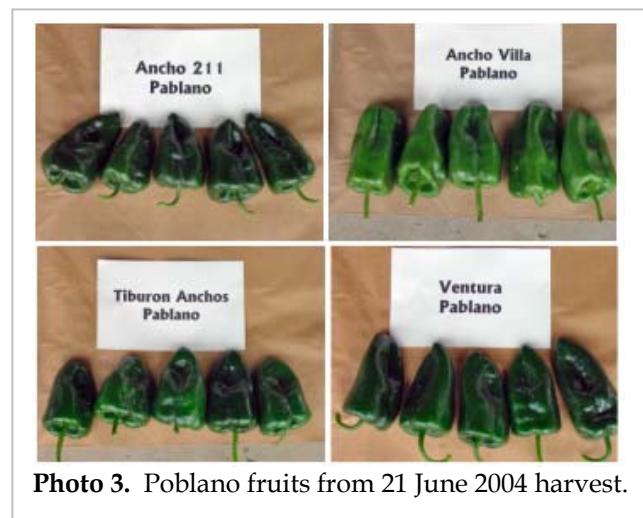


Photo 3. Poblano fruits from 21 June 2004 harvest.

23,838 lbs/A. The lowest seasonal yield was found with 'Ancho 211' and 'Tiburón' with 17,544 and 18,132 lbs/A, respectively.

Fruit dimension measurements taken from each plot (Photo 3) showed the fruit width to be greatest in 'Ancho Villa' and 'Tiburón' at 2.4 and 2.3 inches, respectively. This measurement was taken at the widest part of the fruit, the shoulder on the stem end.



Photo 4. Color variation in poblano fruits from different cultivars.

Fruit length also varied among entries with 'Ancho Villa' (4.0 inches) significantly longer than the other cultivars. 'Tiburón' and 'Ancho 211' showed the shortest fruit at 3.3 inches.

Fruit color ratings showed 'Ancho Villa' was significantly lighter green in color than each of the other entries (Photo 4). All other cultivars showed similar very dark green (nearly blackish green) color. This difference in color for 'Ancho Villa'

may be important in certain markets. If a very dark green fruit is required, 'Ancho Villa' may not be acceptable.

'Ancho Villa' produced the highest early and total marketable yield in the trial. It also produced the largest fruit of the four cultivars evaluated in this trial. All four cultivars produced excellent quality fruit (Photo 5); however, the fruit size and yield of 'Ancho Villa' make it an excellent choice, as long as the lighter color fruit is acceptable to the market.



Photo 5. Poblano pepper fruit from 2004 cultivar trial.

Table 1. Evaluation of four poblano pepper cultivars for yield, quality, and fruit characteristics.

Cultivar	Seed Source	Fruit Width (inch)	Fruit Length (inch)	Fruit Color Rating ^z (1-5)	Season Yield (lbs/A)		Early Yield (lbs/A)		Late Yield (lbs/A)	
					Marketable	Cull	Marketable	Cull	Marketable	Cull
Ancho211	Johnny's	2.0 b ^y	3.3 c	5 a	17,544 c	2,227 b	10,444 b	1,383	7,100 b	844 b
Ancho Villa	Seedway	2.4 a	4.0 a	3 b	30,242 a	4,280 a	18,350 a	2,200	11,892 a	2,080 a
Tiburón	Johnny's	2.3 a	3.3 c	5 a	18,132 c	4,481 a	11,533 b	1,721	6,599 b	2,761 a
Ventura	Seedway	2.0 b	3.7 b	5 a	23,838 b	1,454 b	16,074 a	1,247	7,765 b	207 b
Significance ^x		**	**	**	**	**	**	NS	**	**

^z Fruit color rating was made on a scale of 1-5, 1=light or pale green, 3=medium green, but no blackish-green tint, 5=very dark green nearly blackish-green tint.

^y Means in a column with the same letter are not significantly different by Duncan's multiple range test (p=0.05).

^x F-test for treatments were either highly significant at the 1% level (**) or not significant (NS).