

2006 Sweet Spanish Onion Variety Trial

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Plot size: Four row/bed 6.0' long with 6 x 6 inch spacing – 44 plants/rep.

Transplanting Date: April 13, 2006

Production system: raised bed with black plastic mulch and 2 rows of drip tape – high flow 0.45 gal./min./100 ft at 12" orifice spacing.

Herbicide Application: Two post-emergence applications of Goal at 3.0 oz./A.

Fungicide: None

Insecticide: Two applications of Warrior at 3.0 oz./A for onion thrip control.

Fertility: Broadcast and incorporated 80 lbs./A-N, 60 lbs./A-P, and 120 lbs./A-K and two applications of calcium nitrate injected in the drip system for a total of 14 lbs./A N.

Harvest Date: August 4, 2006

Drying: Bulbs from individual plots were placed in 100 lb. potato Burlap bags and placed in a 17' x 96' high tunnel for 7 days.

Date Graded: October 5 and 11, 2006

Design: Randomized Complete Block with 3 replications

Varieties	Seed Source	Bulb color
1. Candy*	Seedway	yellow
2. Condor*	American Takii	yellow
3. Eagle*	American Takii	yellow
4. NuMex Arthur	New Mexico State U.	yellow
5. NuMex Freedom	New Mexico State U	yellow
6. Expression*	Seedway/Bejo	yellow
7. Exacta*	Seminis	yellow

8. King Fisher*	Seminis	yellow
9. Cowboy	Seedway	yellow
10. Milestone*	American Takii	yellow
11. 9003G	American Takii	yellow
12. EM 398*	Emerald	yellow
13. Rosita	Bejo	pink

Results:

Growing conditions in 2006 were more ideal for sweet Spanish onions grown on raised beds with plastic mulch and two rows of drip tape than the last 3 growing seasons. Varieties were transplanted in mid-April, about 4 weeks earlier than normal. In 2006, onion transplant tops were not cut and maintained at a 4 inch height in the greenhouse, but transplant vegetative tops when placed in the field were approximately 10 to 12 inches in height. Fourteen pounds of nitrogen was injected into the drip irrigation tape over a 7-8 week period after transplanting. Onions were irrigated at least once a week. While weed control was good to excellent the first 4 weeks after transplanting, constant rain in June resulted in significant weed populations (both grass and broadleaf weeds) between the onion rows. The double application of Goal significantly reduced weeds and increased harvesting efficiency.

The highest marketable onion bulb yield was obtained from Condor, Exacta, and EM 398 compared to Candy (current sweet Spanish onion standard in Pennsylvania Table 1). The marketable yield of Eagle was higher than Candy, but had a smaller average bulb size and approximately 5 day later maturity than Candy (Table 1). Both Exacta and Expression produced the highest percentage of colossal bulbs that were 325 in diameter or larger. While Rosita is a very unique pink onion, the two characteristics that may not be appealing to growers are the number of multiple center bulbs and the large neck compared to the yellow bulb varieties.

Table 1. The marketable yield of thirteen Spanish onion varieties evaluated at the Horticulture Research Farm, Rock Springs, PA – 2006.

Variety	Total MKT ^X Yield T/A	Avg. bulb. ^Y wt. lbs.	% Colossal ^Z	% non-MKT
Candy	16.1	0.86	12.4	32.0
Condor	26.3	0.87	17.4	5.0
Eagle	21.7	0.78	12.2	12.0
NM Arthur	20.8	0.88	12.9	15.5
NM Freedom	15.8	0.64	1.7	17.2
Expression	25.0	0.85	20.6	8.0

Exacta	26.6	0.89	23.5	6.2
KingFisher	20.8	0.77	7.6	14.5
Cowboy	19.8	0.64	2.3	3.0
Milestone	16.8	0.55	0.0	4.6
9003G	20.5	0.66	1.6	3.0
EM 398	23.6	0.81	11.6	7.0
Rosita	18.4	0.87	11.3	23.7

X – The total marketable yield is based on an onion population of 50,000 plants/A including jumbo and colossal bulb sizes.

Y – The average bulb weight in pounds included all bulbs greater than 2.5 inches in diameter

Z – The percent colossal bulbs included all bulbs greater than 3.25 inches in diameter.