APPENDIX A.10

STAKED TOMATILLO VARIETY COMPARISON – 2002

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INTRODUCTION

New Jersey growers are looking to produce alternative crops for the more profitable fresh market. An emerging ethnic market in the Northeast is that of the Latino population which has grown approximately 70% in the last 10 years. Tomatillos are a major part of their diet and imported supplies are often poor in quality. Tomatillo consumption has begun a cultural crossover to mainstream markets. With sales of over $800,000,000 annually, the salsa market has topped that of tomato ketchup. This market segment provides an opportunity to produce a value-added, non-perishable food product. Our field production method utilizes staked culture with the "Florida Weave" system which is superior to the standard sprawl method. This study attempts to provide information for the most appropriate varieties to produce in our region.

MATERIALS AND METHODS

Tomatillo seeds were sown in the greenhouse on April 18, 2002 in 48-cell trays containing a peat-vermiculite media. The transplants were maintained in the greenhouse until one week before planting when they were placed in a protected outside area for hardening off. Plasticulture beds on 6' centers were prepared with drip irrigation placed down the center of the 8" mound. The transplants were hand-planted in single rows spaced 24" apart between plants. Four replicates of each variety were randomized throughout the field. Each replicate was 25' in length. Data was collected on growth habit, plant vigor and plant height. Harvest times were determined when the fruit began to fill the husk as it started to senesce from green to brown in color and reveal a half-inch opening. Harvest dates were August 1, August 8, August 14, September 3 and September 11. Fruits were counted, weighed, separated and estimated as to percent marketability. Separate fruit samples were randomly selected in each replicate to determine fruit size and color for the cultivars.

Variety	Seed Company	Days to Harvest	Fruit Size	Fruit Color	SEED COMPANY COMMENTS
Cisineros Tomatillo	Tomato Growers	75	Very large	Green	**TWICE THE SIZE OF MOST TOMATILLOS. USE IN BRIGHT GREEN STAGE FOR TARTEST FLAVOR, OR ALLOW TO RIPEN FURTHER FOR A SWEETER TASTE.**
De Milpa Tomatillo	Johnny's	70	Small to medium	Green/yellow	**MEXICAN HEIRLOOM, LONG STORAGE. PORTIONS BLUSH WITH PURPLE, ESPECIALLY AFTER HARVEST**
Pineapple Tomatillo	Tomato Growers	75	Very small	Yellowish green	**SWEET, FRUITY TASTE, LIKE PINEAPPLE. SHORT, SPREADING PLANTS YIELD PLENTY OF THESE TASTY FRUIT WHICH IS EXCELLENT IN SALSAS, ESPECIALLY THOSE MADE WITH FRUIT AS AN INGREDIENT**
Purple Tomatillo	Tomato Growers	75-85	Small	Deep purple	**VIGOROUS & PRODUCTIVE PLANTS. SWEET YET TART FLAVOR.**
Toma Verde	Johnny's	75	Medium	Bright green	**SWEET YET TART AND EXCELLENT IN GREEN MEXICAN SALSA & SOUTHWESTERN DISHES**
Verde Puebla	Evergreen Seeds	75	Medium	Green	**INDETERMINATE. EASY TO GROW.**

RESULTS AND DISCUSSION

There was considerable difference in size, shape, color and ease of harvest among the six cultivars. The five harvest dates revealed an escalating production and then a decreasing production possibly relating to sunlight and plant vigor – Table 1 Yield Per Sample Date. The largest yield came from the Cisineros variety, while the smallest yield came from the Pineapple

TABLE 1 - YIELD PER SAMPLE DATE

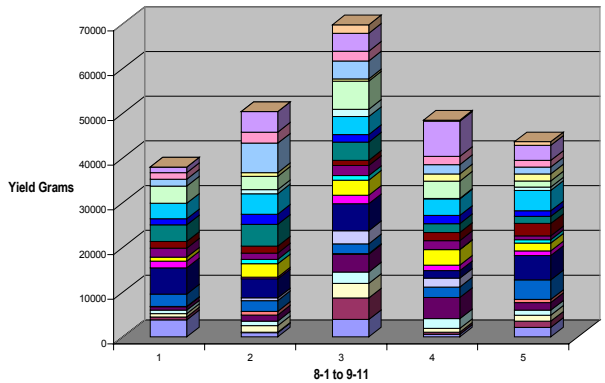
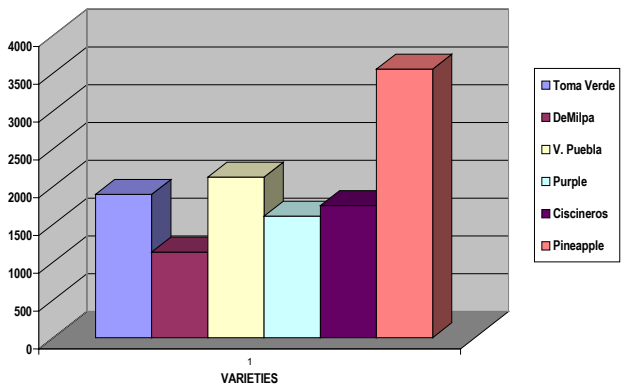


TABLE 2 - TOTAL NUMBER OF FRUIT PER VARIETY



variety – Table 4 Total Yield Per Variety. These two varieties had both the largest and smallest fruit size and weight respectively – Table 3 Tomatillo Individual Fruit Weight. The Pineapple variety had approximately twice the total number of fruit compared to the other five cultivars – Table 2 Total Number of Fruit.

CONCLUSIONS AND COMMENTS

From a commercial standpoint, this year's study shows the Cisineros tomatillo to be a very promising choice for growers due to its large size, good green color, large yield and good flavor. Cultivars Toma Verde and Verde Puebla had the next largest fruit sizes and total seasonal yields. These two varieties are most similar to what we see in our Northeastern markets. The Purple tomatillo had a moderate yield and was a bit smaller in terms of fruit size. This purple cultivar did have a very appealing and distinctive color and excellent flavor. The remaining two varieties appear to be best suited for the home garden and not the commercial grower. The "De Milpa" heirloom is too small in size and too yellow in color. The Pineapple tomatillo was extremely small and could not be harvested economically, although it had a wonderfully fruity-nutty flavor.

NOTE