

## 2003 Sweet Corn Trials in Ohio

Robert J. Precheur, Rick Callendar, Jim Doran, David Schacht, Ted Smith, Dennis Ash and Herminio Perez

Department of Horticulture and Crop Science, Manager, Muck Crops Branch, Celeryville, OH, Grower Cooperators: New Albany, OH, Canal Winchester, OH, and Muck Crops Branch Staff

Sweet Corn is Ohio's number one fresh market vegetable with between 15,000 to 17,000 acres planted depending on the year. In the US, Ohio ranks 6<sup>th</sup> in fresh market sweet corn production. Sweet corn is produced throughout OH, in the southeast along the Ohio River, in many counties around Cincinnati, and also throughout central and northern OH.

### Objectives

To identify sweet corn cultivars with good emergence, high marketable yield and excellent quality under OH growing conditions.

### Methods

At Celeryville, twenty three varieties were planted in muck soil on May 19th in plots consisting of 4 rows, 30 in apart and 25 ft long, later shortened to 20 ft. Plots are arranged in a randomized complete block design with 4 replications. The middle two rows are used for data collection. Data collected included emergence, plant and ear characteristics, and marketable yield. Sweetness was determined by a purely subjective evaluation of raw eating quality. Each variety was also evaluated for percent germination at ten different temperatures on the thermo-gradient table (Data not shown). The 2003 varieties were also evaluated at 2 grower locations in central OH. Only Celeryville results are reported here. Complete tables are available in the OH Sweet Corn Report or at the VegNet website: <http://vegnet.osu.edu>

### Results

Fourteen sh2's and 9 se's were included in this year's trial. The seed for Mirai 301 BC was from a bad seed lot and there was 0% germination at all three locations. Also, no data was collected for variety #8 due to a source error.

In the bicolor se's, maturity ranged from 70 to 81 days. Percent plant stand was 70 to 80 percent for the early maturing varieties and in the high 90's for later maturing varieties. Plant vigor paralleled days to maturity with only fair ratings for early maturing and a ranking of 8 or 9 out of 10 for later maturing varieties. At a May 14<sup>th</sup> planting, Temptation planted at the same time had 100 % plant stand and superior plant vigor (10) to all the varieties in the trial. Out of the seven bi-colors, HMX 0351 BES, Ambrosia and Brocade had the best plant vigor. A later May 28 planting resulted in better plant stands and improved plant vigor. For the early plantings, maturity was delayed about 6-9 days. Chippewa and Navajo were rated as having good flavor. Luscious and HMX 0351 BES were rated good to very good. Ambrosia and Brocade had some tip fill problems. Brocade flavor was rated as medium or bland.

Two white se's evaluated both had excellent plant vigor and 100 % plant stand. Cloud Nine produced almost 8 inch ears but more than 80% of the ears had a significant tip fill problem and 'bear paw' (split or tendency for double ear at the tip). This problem was observed at all 3 trial

locations. On the other hand, Whiteout had good yields with ears measuring 7.7 inches. Flavor was ranked good to very good at three locations.

Six bicolor sh2's were evaluated this year. Two extra tender varieties 272A and 272A had greater than 90 % plant stand and good plant vigor. Only at our last planting where we had heavy rain and wet soils did plant stand and vigor suffer. Yield at all three locations was high. Flavor was rated as very good with crunchy kernels. With 272A, tip cover and husk tightness can be an issue. At one location, the ear pushed out above the husk and was susceptible to bird damage. There was a 30% yield loss at this location. Bird control devices had not yet been moved to this field location as maturity was earlier than expected. The problem was not seen at other locations but bird protection is recommended with these varieties. Varieties ACX 725 BC, ACX 1012 BC, Tango, BSS 9686 had good plant stand, vigor and yield. All had a very good or good flavor rating. ACX 1012 BC kernels were rated tender and crunchy. Tango and BSS 9686 had kernels with tough pericarps.

ACX 1068W and WSS 0986 are two white sh2's with nearly 100% plant stand and good vigor. WSS 0986 is an Attribute corn with very high yields of 2,051 marketable dozen per acre. Ears are 7 inches long and 2 inches wide. The color is slightly off-white but growers feel this is not a problem. The flavor is good with sweet kernels and tough pericarps.

In the yellow sh2 category. Mirai 005, 002 and Mini Mirai 003 were evaluated at three locations. Plant stand varied from 30 to 98 per cent depending on location. A very cool and wet spring affected vigor and plant stand. The strongest in terms of plant stand and vigor was Mini Mirai 003. This variety produces high yields of 6 to 7 inch ears about 2 inches in diameter. Tight husks over the tips form a nice package. Flavor is excellent. Mini Mirai 003 is ideal for customers looking for alternatives to large ears, restaurants and other specialty markets. Mirai 002 is similar to Mirai 005 in yield and excellent quality. Mirai 005 was 3-6 days earlier than Mirai 002 but seemed to have less vigor after germination. There is a tendency to pick the Mirai varieties before they reach peak flavor

### **1. Key to Table Categories on the following pages**

**Ear Length and Ear Width:** Average length of 10 husked ears in inches.

**Flag leaves:** Length in inches. S = 2 to 4; M = 4 to 6; L 6 to 8 or greater.

**Tip Cover:** 1 = exposed; 2 = 1 inch covered; 3 = 2 inches covered.

**Husk Tightness:** 1 = loose; 2 = firm; 3 = tight.

**Tip Fill:** 1 = filled; 2 = unfilled 1 inch or less; 3 = unfilled greater than 1 inch.

**Shank:** typical length in inches: S = 2 to 4; M = 4 to 6; L 6 to 8 or greater.

**Raw Flavor:** Raw eating quality as determined at harvest. P = poor, M = medium, G = good, VG = very good, E = excellent; Pericarp rating (sometimes follows raw flavor ranking): tp = tough pericarp, vtp = very tough pericarp.