

Sweet Corn Cultivar Trial - 2006

*Vince Lawson, superintendent
Muscatine Island Research Farm*

Introduction

The 2006 sweet corn cultivar trial was conducted to identify cultivars with high-quality bicolored ears for local marketing or short-distance shipping. This year's trial evaluated ten sugary-enhanced (se) and synergistic hybrids and seventeen supersweet (sh2 and augmented sh2) hybrids.

Materials and Methods

Planting. Sweet corn plots were established on April 26 by planting on a dark-colored loamy-sand type soil.

Plot Design. A randomized complete block design with three replications was used. A plot consisted of three rows 30 ft long with 30 inch row spacing. Seeds were planted at rate of 25,750/acre.

Fertility and Irrigation. Water was applied as needed by a center pivot irrigation system. Fertilizer was applied preplant incorporated at rate of 50 lb nitrogen (N) and 100 lb potassium (K₂O). After crop emergence 45 lb N (UAN) was applied on May 31 and again on June 9 through irrigation system.

Pest Control. Dual II Magnum, Atrazine 4L, and Callisto herbicide were applied crop preemergence. Mustang insecticide was applied every fourth day starting at ear silking.

Results and Discussion

Cultivars are arranged by maturity, early-to-late, in the tables. Data for all genetic types (se and sh2) are presented together in this report but in the field they were grown in separate blocks for isolation purposes and data were analyzed separately. While there were significant yield differences among cultivars, for the most part they all produced acceptable yield, so selecting cultivars for commercial planting will largely be made on factors such as desired maturity, plant characteristics, ear quality, seed availability and targeted market.

Based on trial performance the following sugar-enhanced/synergistic cultivars are recommended for consideration. Revelation was the first cultivar to be picked in the trial and produces a good quality ear for its early maturity. Temptation has been the early standard and still shows merit with its strong plant vigor and yield. Montauk stood out in the trial with excellent plant vigor, high yields and attractive ears with eating quality that was good but not what I considered the best. The full season hybrids, Providence and BC 0805 continue to be top performers. They have consistently produced large, well-filled ears with good eating characteristics. Light green husks and lack of flag leaves are the only criticisms I can find of these fine hybrids. BC 0805 is similar to Providence for most characteristics but distinguishes itself by being an Attribute, insect-protected cultivar.

As a group the supersweets are receiving a lot of interest from growers who are looking for high-quality corns with outstanding sweetness and tenderness. Unfortunately, none of the cultivars in this trial were perfect for all characteristics evaluated but several produced ears with

exceptionally good eating quality. This is the second year of trialing 272A, Fantastic and 274A and they have shown both early maturity and good seedling vigor (an important trait for early cultivars) while developing ears with better appearance and size than other cultivars with comparable maturity. 277A has shown weak cold soil vigor and marginal husk cover of ear tips but the short full ears had richly colored kernels and were extra tender and great tasting. 282A is a full season hybrid that has performed well for the third year in a row. Its attractive ears didn't have the tenderest kernels in the trial but still were of good quality. BSS 0977 is an Attribute, insect protected (Bt) hybrid with strong plant vigor and yield, however, its eating quality was below average for this group. Triumph, in its first year of testing here, showed good plant vigor and ear quality and should be evaluated again. Several of the Mirai hybrids produced high quality ears but need further observation to document their consistency and potential problems.

Table 1. Sweet corn cultivar trial observations and comments.

Sugary-enhanced and Synergistic Cultivars

Revelation	Earliest maturing cultivar in trial, good eating quality too
Temptation	Consistently strong vigor and good yield
Reflection	Kernels sweet and tender but shallow
Renaissance	Ear quality compared favorably to Temptation
Montauk	Long flag leaves, big nice looking ears
Kristine	Uniform medium-sized attractive ears, kernels sweet and tender
Gateway	Thin ear, decent eating quality
Cameo	Attractive ears, fair to good eating quality
Providence	Large, good eating quality ears, light green husk and short flag leaves
BC 0805	Attribute insect protected (Bt) hybrid, ear quality similar to Providence

Supersweet Cvs.

272A	Good eating quality and appearance for early cultivar, some secondary ears in husk
Mirai 334BC	Good eating quality but fair to poor tip fill
Fantastic	Husk cover of ear tip less than desired but great looking and eating husked ears
274A	Husk cover fair, husked ear attractive with sweet and tender kernels
Mirai 308BC	Tender, good flavor, medium-sized ear
Mirai 301BC	Tender and sweet
Triumph	Small attractive kernels, sweet and crunchy
Mirai 336BC	Nice looking ear, kernels a little shallow
Double Up	Fair husk cover of ear tip, not as sweet or tender as some
Mirai 302BC	Light green husk, short flag leaves, tip fill rated fair
Optimum	Poor stand hurt yield, nice ears but a lot of secondary ears in husk
277A	Husk cover could be better, excellent eating quality, deep rich kernel color
Mirai 350BC	Uneven maturity and ear size
Surpass	Trashy plant, ears pulled hard, uneven maturity
BSS 0977	Attribute insect protected (Bt), fair husk cover of ear tip, conventional sh2 quality
282A	Sweet and crunchy, good but not as tender as some cultivars
Holiday	Kernels shallow for ear size, tender, good flavor

Table 2. Sugar-enhanced (se) and synergistic sweet corn cultivar marketable yield and ear characteristics.

Cultivar	Seed Source	DTH	Seedling	Dozen Ears/A	Yield CWT/A	10 Ear	Ear	Ear
			Vigor Rating			Husked Wt - lbs	Length inch	Diameter inch
Revelation	HM	80	F/G	1242	106.1	4.8	7.3	1.94
Temptation	CS	82	E	1742	137.7	5.0	7.4	1.87
Reflection	HM	82	F/G	1275	105.7	4.8	7.2	1.90
Renaissance	HM	82	G	1258	105.2	5.0	7.5	1.86
Montauk	RI	84	E	1823	173.1	5.4	7.8	1.88
Kristine	CR	84	G	1404	115.8	4.6	7.3	1.79
Gateway	RG	85	G/E	1646	126.9	4.6	7.8	1.72
Cameo	CR	85	G	1468	114.7	4.8	7.3	1.88
Providence	RG	89	G	1742	151.8	5.2	8.3	1.77
BC 0805	RG	89	G	1726	146.6	5.4	8.1	1.80
Average				1533	128.4	4.9	7.6	1.84
LSD 5%				329	30.3	0.4	0.3	0.06

Seedling Vigor: based on plant size four weeks after planting, E=excellent, G=good, F=fair, P=poor.

Table 3. Supersweet (sh2) sweet corn cultivar marketable yield and ear characteristics.

Cultivar	Seed Source	DTH	Seedling	Dozen Ears/A	Yield CWT/A	10 Ear	Ear	Ear
			Vigor Rating			Husked Wt - lbs	Length inch	Diameter inch
272A	ST	81	G	1129	104.2	5.5	7.5	1.98
Mirai 334BC	CE	83	G	1597	134.6	5.2	7.6	1.90
Fantastic	ST	83	G/E	1597	127.2	5.4	7.4	1.92
274A	ST	83	E	1452	121.0	5.5	7.8	1.92
Mirai 308BC	CE	83	F/G	1355	97.2	4.8	7.6	1.84
Mirai 301BC	CE	85	F/G	1468	123.9	5.6	7.7	1.91
Triumph	ST	85	E	1468	116.0	5.1	7.4	1.82
Double Up	RG	85	G/E	1454	116.9	5.0	8.0	1.76
Mirai 336BC	CE	85	G	1355	120.1	5.6	8.3	1.79
Mirai 302BC	CE	85	F	1226	116.8	6.1	8.3	1.95
277A	ST	89	F	1404	117.2	5.5	7.4	1.93
Mirai 350BC	CE	89	P/F	1194	105.4	5.4	7.8	1.84
Optimum	CR	89	P/F	1176	96.1	5.0	6.9	1.89
Surpass	CR	89	F	1113	88.5	4.7	7.5	1.77
BSS 0977	RG	91	E	1984	139.6	4.7	7.2	1.79
282A	ST	91	F/G	1646	138.1	5.6	7.9	1.92
Holiday	CR	91	F	1420	133.8	5.8	8.5	1.94
Average				1415	117.4	5.3	7.7	1.87
LSD 5%				409	32.2	0.6	0.2	0.08

Seedling Vigor: based on plant size four weeks after planting, E=excellent, G=good, F=fair, P=poor.