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Sweet Corn Cultivar Trial

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Abstract

The 2005 sweet corn cultivar trial was conducted to identify superior cultivars with high-quality bicolored ears for local marketing or short-distance shipping. Nineteen sugar-enhanced (se)/synergistic hybrids and fifteen supersweet (sh2) hybrids were planted in a replicated trial at the Muscatine Island Research Farm on April 20, 2005 (Table 1). The fairly early spring planting date was selected so seedling vigor ratings could be taken under cool, less than ideal growing conditions. However, spring weather can be unpredictable and soil temperatures ranged from 53 to 60o F after planting, allowing most cultivars to germinate and emerge. Then unexpected cold weather followed in early May, probably accentuating seedling growth differences and allowing vigor ratings to be taken on May 25 (Table 2). It was surprising how vigorous several of the supersweet cultivars looked since these types are recommended for planting in warm soils only. This might be explained by two favorable events: 1) warm soils after planting that allowed quick germination, and 2) soils that were relatively dry when cold weather occurred, helping to keep seedlings healthy.

Disciplines

Agricultural Science | Agriculture

Sweet Corn Cultivar Trial

Vince Lawson, farm superintendent

Introduction

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Materials and Methods

Planting. On April 20, 2005, the planting was done on dark-colored loamy sand-type soil.

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

Irrigation. Water was applied as needed with overhead sprinklers.

Fertility. Application of 50 lb of nitrogen (N) and 120 lb potassium (K20) was preplant incorporated. Later, 50 lb N (urea) was broadcast over plots on May 15 and another 35 lb on June 12.

Pest Control. Outlook, Atrazine 4L, and Callisto were the herbicides used; Capture and Mustang were the insecticides.

Results and Discussion

Cultivars are arranged by maturity, early to late, in the tables. Data for all cultivars are presented together for convenience; but in the field, the supersweets were planted in a block separate from the sugar-enhanced hybrids for isolation purposes, and data was analyzed separately. While there were significant yield differences among cultivars, for the most part they produced acceptable yields. Therefore, selecting a hybrid for planting should largely be made on desired maturity, plant characteristics, ear quality, seed availability, and the targeted market. Based on trial performance, the following sugar-enhanced/synergistic cultivars are recommended for consideration: Renaissance, Temptation, BC 0805, and Providence, MXH 12564, and Cameo. All looked good in their first year of evaluation and may be recommended in the future. Standard supersweet (sh2) cultivars with favorable production characteristics to consider are *Candy Corner*, *Double Up*, *BSS 0977*, and *Polaris*. Some of the cultivars with the best qualities for consumption in the trial are referred to as “augmented” or “gourmet eating” supersweets and included *Mirai 301 BC*, *274A*, *Fantastic*, *Obsession*, and *282A*.

Table 1. Sweet corn cultivar trial observations and comments.

Sugar-enhanced(se) and synergistic cultivars	Comments
Temptation	Standard early cultivar, strong plant, consistent good yield and quality
Revelation	Synergistic, ears of acceptable appearance and taste for early maturity
Renaissance	Promising results with good seedling vigor and good ear size and quality for maturity
Bon Jour	Homozygous se, with fair seedling vigor
Polka	Synergistic, good for eating but fairly small ears and low yield (planted too far south?)
Frisky	Synergistic, good for eating but fairly small ears and low yield (planted too far south?)
HMX 4380	Mediocre yield and ear size
Nantasket	Synergistic, nice-looking ears but shallow kernels; some smut was noted in 2004
MXH 12564	Good vigor and yield, attractive ears, sweet and tender, but only fair husk cover
Accord	Good yield of medium-sized ears
Precious Gem	Good 80-day homozygous se, which has been a strong consistent performer
Brocade	78-day se with long ears (8.1) of good quality except tip fill lacking when stressed
Buccaneer	Long ear shanks; medium-sized husked ear are attractive, and kernels tender and sweet
MXH 11467	Attractive, big ears, sweet and tender, but only fair husk cover of ear tip
BC 0805	Attribute insect-protected (bt) hybrid with characteristics similar to <i>Providence</i>
Charmed	Synergistic, with appealing medium-sized ears (7.6 in. long)
Providence	Recommended 84-day standard strong plant; large ears, excellent looking and eating
Cameo	Synergistic, nice-looking big ears and small flag leaves
BC 1136	Synergistic, with good eating characteristics, but long, thin ears
Supersweet cultivars	
270A	Earliest sh2 in trial; good, early plant vigor, with a few secondary ears in the husk
272A	Early, good-looking ears; lodging and husk cover have been problems previously
Candy Corner	Standard midseason sh2; strong yield of attractive ears, fair to good eating quality
274A	Excellent eating quality; attractive dark green husk and flag leaves
Fantastic	Eating quality is very good, but the husk cover of the ear tips is less than desired
Double Up	Sturdy clean plant, with nice ears that are sweet and crunchy
Mirai 301BC	Excellent ear quality, tender and sweet; just fair emergence and seedling vigor ratings
ACX 726	Medium-sized ears and yield
ACX 950	Very sweet and tender but rather small ears covered with a lot of husk, long flags
281A	Ears had refined uniform appearance; it is reported to have good disease resistance
Obsession	Good yield with excellent ear quality, but there was lodging in previous plantings
Mirai 327BC	Poor emergence and seedling vigor, big nice-looking ears that are good for eating
BSS 0977	Attribute insect-protected (bt), 7.5 ears; nice looking and typical sh2 eating quality
Polaris	Strong plants with large ears and yield; kernels are sweet but a little tough
282A	Short pointed ears with good eating; it is reported to have multiple disease resistance

Table 2. Sweet corn cultivar marketable yield and ear characteristics.

Cultivar	Seed source	DTH	Seedling vigor rating ¹	Dozen ears/A	Yield (cwt/A)	Wt of 10 husked ears (lb)	Ear length (in.)	Husk cover rating ²
Sugar-enhanced (se) and synergistic hybrids								
Temptation	SM	82	E	2,017	168.2	4.5	7.7	G
Revelation	HM	82	F-G	1,485	113.6	4.4	7.8	G-F
Renaissance	HM	82	G-E	1,372	110.5	4.4	8.0	G
Bon Jour	MM	82	F-G	1,307	109.7	4.5	8.2	G
Polka	ST	82	F	1,077	72.8	3.8	7.6	G
Frisky	ST	82	F	896	57.7	4.0	7.2	F
HMX 4380	HM	84	F-G	1,001	79.1	4.5	7.5	G
Nantasket	MM	87	G	1,678	159.7	5.0	7.9	G
MXH 12564	MM	91	G	1,743	170.3	5.5	8.1	F-G
Accord	MM	91	G	1,727	172.7	5.2	8.3	G-F
Precious Gem	MM	91	G	1,614	177.9	6.3	8.7	G
Brocade	MM	91	F-G	1,501	140.8	6.0	8.1	G
Buccaneer	MM	91	F-G	1,404	130.8	5.1	7.6	F-G
MXH 11467	MM	94	G-E	2,074	233.1	6.2	8.5	F-G
BC 0805	RG	94	G	1,937	212.5	6.1	8.8	G
Charmed	HR	94	—	1,812	165.3	5.1	7.6	G
Providence	RG	94	G	1,781	198.2	5.8	8.9	G
Cameo	HR	94	—	1,682	169.5	6.0	8.3	G
BC 1136	RG	94	F	1,250	122.2	4.7	8.3	G
Supersweet (sh2) hybrids								
270A	RU	82	E	1,662	148.1	5.3	8.4	F-G
272A	ST	83	G	1,453	118.1	5.5	8.1	G
Candy Corner	RG	85	G-E	1,904	165.1	4.8	7.9	G
274A	ST	85	G-E	1,549	163.5	6.0	8.5	F-G
Fantastic	ST	85	G-E	1,501	158.3	5.7	8.2	F
Double Up	RG	85	G-E	1,388	152.5	5.2	8.3	G
Mirai 301 BC	HR	85	F	1,316	118.4	5.8	8.0	G
ACX 726	AC	85	G	1,291	105.5	4.5	7.8	F-G
ACX 950	AC	91	G-E	1,840	151.5	5.0	7.5	G
281A	ST	91	G-E	1,662	154.7	5.4	8.1	G
Obsession	SM	91	F-G	1,630	153.5	5.2	8.2	G
Mirai 327 BC	HR	91	P	859	90.9	5.5	8.6	F-G
BSS 0977	RG	94	G-E	2,292	203.4	5.3	7.5	G
Polaris	HM	94	G	2,163	228.1	6.2	8.5	G-F
282A	ST	94	F-G	1,630	151.9	5.6	7.4	G
Trial average				1,636	155.3	5.2	8.1	

¹Seedling vigor is based on plant size four weeks after planting, E=excellent, G=good, F=fair, P=poor.

²Husk cover: G=good, husk covers ear tip tightly; F=fair; P=poor, exposed ear tip and loose husk.