



**UNIVERSITY OF  
DELAWARE**

**BICOLOR  
FRESH MARKET**

# **SWEET CORN**

**VARIETY**

**TRIAL**

**RESULTS**

**Emmalea Ernest and Gordon Johnson**

---

**University of Delaware  
Carvel Research and Education Center  
16483 County Seat Highway  
Georgetown, DE 19947**

**2012**

## **Table of Contents**

<b>Acknowledgements .....</b>	<b>1</b>
<b>Introduction.....</b>	<b>2</b>
<b>Materials and Methods.....</b>	<b>2</b>
<b>Discussion of Trial Results .....</b>	<b>4</b>
<b>Table 1. 2012 Bicolor Fresh Market Supersweet Sweet Corn Trials: Whole Plot Emergence and Final Stand Counts.....</b>	<b>6</b>
<b>Table 2. 2012 Bicolor Fresh Market Supersweet Sweet Corn: Early Trial Plant Characteristics.....</b>	<b>7</b>
<b>Table 3. 2012 Early Bicolor Fresh Market Supersweet Sweet Corn Trial: Yield and Harvest Data .....</b>	<b>8</b>
<b>Table 4. 2012 Mid-Season Bicolor Fresh Market Supersweet Sweet Corn Trial: Yield and Harvest Data.....</b>	<b>9</b>
<b>Table 5. 2012 Early Bicolor Fresh Market Supersweet Sweet Corn Trial: Ear Characteristics .....</b>	<b>10</b>
<b>Table 6. 2012 Mid-Season Bicolor Fresh Market Supersweet Sweet Corn Trial: Ear Characteristics .....</b>	<b>11</b>
<b>Table 7. 2012 Bicolor Fresh Market Supersweet Sweet Corn Trials: Informal Taste Ratings.....</b>	<b>12</b>
<b>Appendix A: Photographs of the Varieties in the 2012 Bicolor Supersweet Sweet Corn Trials in Order of Maturity.....</b>	<b>13</b>
<b>Appendix B: Weather Conditions During the 2012 Early and Mid Season Supersweet Bicolor Sweet Corn Trials.....</b>	<b>18</b>

## **Acknowledgements**

The authors express their thanks to:

Delaware Department of Agriculture for financial support of these trials through the Specialty Crops Block Grant program.

Participating Seed Companies: Abbott & Cobb, Crookham Company, Harris Moran Seed Company, Illinois Foundation Seeds, Inc., and Syngenta Seeds, Inc.,

Siegers Seed Company for donating the seed of standard varieties.

Brian Hearn and the staff at the University of Delaware Research & Education Center, Georgetown, for their assistance in planting, spraying, and irrigating the trials.

Seasonal vegetable program workers Abby Atkins, Heather Baker and Danielle Vanderhei for their hard work planting, collecting data and harvesting the trials.

## 2012 University of Delaware Bicolor Fresh Market Sweet Corn Variety Trials

Emmalea Ernest and Gordon Johnson  
University of Delaware  
Elbert N. and Ann V. Carvel Research & Education Center  
16483 County Seat Highway  
Georgetown, DE 19947  
302-856-7303  
[emmalea@ude.edu](mailto:emmalea@ude.edu), [gcjohn@udel.edu](mailto:gcjohn@udel.edu)

### Introduction

The UD Extension Vegetable Program conducted two bicolor fresh market sweet corn trials in 2012. The purpose of these trials was to evaluate new bicolor fresh market sweet corn varieties for yield and quality characteristics under Delaware growing conditions.

Similar trials have been conducted in past years and are archived at:

<http://extension.udel.edu/ag/vegetable-fruit-resources/vegetable-small-fruits-program/>.

Only supersweet isolation group varieties were trialed. Details for trial planting, management and harvest procedures are in the Materials and Methods section. Each trial is analyzed as a separate experiment and results are reported as such.

### Materials and Methods

Both trials were located at the University of Delaware Research Farm in Georgetown, Delaware. The Early Trial was planted on April 18 in field 25F and the Mid-Season Trial was planted on May 11 in field Dill 15. Plots consisted of three rows, 50 ft in length; the center row was designated for harvest. Plots were arranged in a randomized complete block design with four replications. Trials were planted with a Monosem vacuum planter with 30 inch between row spacing and 9 inch in row spacing (23,231 plants per acre). Starter fertilizer (17-10-0) at a rate of 14 gallons per acre, and Force granular insecticide at 5.5 lbs/A were used at planting. The trials were irrigated with traveling linear irrigation systems.

Post planting herbicide and insecticide applications for the Early Season Trial were as follows:

- preemergence herbicide application of atrazine at 1 qt/A, Dual II Magnum (S-metolachlor) at 1 pt/A, Callisto (mesotrione) at 3 fl oz/A, Honcho (glyphosate) at 1 qt/A on April 20;
- insecticide applications of Warrior II (lambda-cyhalothrin) at 2 fl oz/A on June 24, June 30, July 4, and July 7;
- insecticide application of Warrior II (lambda-cyhalothrin) at 2 fl oz/A + Lannate (methomyl) at 1.5 pts/A on July 10.

Post planting herbicide and insecticide applications for the Mid-Season Trial were as follows:

- preemergence herbicide application of atrazine at 1 qt/A, Dual II Magnum (S-metolachlor) at 1 pt/A, Callisto (mesotrione) at 3 fl oz/A;
- postemergence application of atrazine at 1.25 lb/A + crop oil at 1% v/v to control morningglory
- insecticide application of Warrior II (lambda-cyhalothrin) at 2 fl oz/A + Lannate (methomyl) at 1.5 pts/A on July 9;

- insecticide applications of Warrior II (lambda-cyhalothrin) at 2 fl oz/A on July 14, July 16, July 20 and July 23.

#### **Varieties Entered in the 2012 Bicolor Fresh Market Supersweet Sweet Corn Variety Trials**

<b>Variety</b>	<b>Early Trial</b>	<b>Mid-Season Trial</b>	<b>Company</b>
ACR SS2740R	X	X	Abbott & Cobb
ACX MX1504MRBC	X	X	Abbott & Cobb
7932MR	X	X	Abbott & Cobb
7902	X	X	Abbott & Cobb
7112	X	X	Abbott & Cobb
BSS5426	X	X	Syngenta
Marquette	X	X	Harris Moran
CSABF9-357	X	X	Crookham Company
CAABF10-413	X	X	Crookham Company
CSAFG10-426	X	X	Crookham Company
Obsession	X	X	check (donated by Siegers)
Fantastic	X	X	check (donated by Siegers)
Mirai 311BC	X	X	check (donated by Siegers)
Mirai 336BC	X	X	check (donated by Siegers)
Xtra-Tender 2171	X	X	check (donated by Siegers)
Xtra-Tender 2573	X	X	check (donated by Siegers)
Xtra-Tender 274A	X	X	check (donated by Siegers)
XTH 2074		X	Illinois Foundation Seeds, Inc.

#### **Data Collection Procedures**

Counts of all emerged plants in all rows were made on May 14 (26 DAP) for the Early Trial and on June 4 (24 DAP) for the Mid-Season Trial.

Before harvest a thirty-foot section of the center row of the plot was flagged and designated for harvest. The plants in the flagged section were counted and are reported as final harvest section stands.

On July 5 (78 DAP) the following measurements were taken for eight plants from the harvest section in each replication in the Early Trial: height of the plant, height of the first ear, and number of tillers. These measurements were not taken for the Mid-Season Trial.

Ears were hand harvested from the thirty-foot harvest section. Ease of picking was rated on a 1 (easy) to 4 (hard) scale at that time. Ears were counted and weighed in-husk.. The following measurements were taken for a sample of five ears from each plot: number of flag leaves longer than 5 cm, length of the longest flag leaf, tip cover (distance from top of ear to end of husk when half husked or length of ear protruding from husk reported as a negative number), ear length, ear diameter, tip fill (distance from end of ear to first well filled kernels), and number of rows.

Flavor of the raw corn was informally evaluated at the time of harvest.

## **Discussion of Trial Results**

### **Early Season Trial Yield**

The early season trial of seventeen bicolor supersweet fresh market sweet corn varieties was planted into Rosedale loamy sand, 0 to 2 percent slopes on April 18, 2012. Soil temperature during the first 14 days after planting averaged 59°F at a two inch depth under sod, with daily maximum temperatures averaging 62°F and daily minimum temperatures averaging 56°F. Emergence at 26 days after planting ranged from 97% to 71% and there were statistically significant differences in emergence between the varieties (Table 1). The varieties with the highest percent emergence were Obsession, Xtra-Tender 274A, and Xtra-Tender 2171. Xtra-Tender 2573 and 7902 also had over 90% emergence in this trial. Marquette and CSAFG10-426 had significantly lower percent emergence than all of the other varieties.

There were fewer significant differences between the final harvest section stands of the varieties. This is because the harvest section was chosen in such a way as to avoid areas with low stand, thereby minimizing (but not eliminating) the effects of stand reduction on yield comparisons. Evaluation of varieties for early vigor, should therefore be based on the emergence data at 26 DAP.

Heat scalding was observed in five of the varieties in the trial, probably due to extremely hot weather on June 29, 2012. Scalding injury was rated on July 5, 2012. The five varieties in which we observed scalding are ordered here from most to least severe: 7112, Xtra-Tender 2573, Mirai 311BC, Xtra-Tender 274A, 7932MR. Heat scalding is not generally believed to have much impact on yield, however some of the varieties with the most severe scalding (7112, Xtra-Tender 2573 and Mirai 311BC) had significantly lower yields, which cannot be explained by lower stands in the harvest section. 7932MR had some scalding but was still among the top yielding varieties in this trial.

This trial was well irrigated and not drought stressed, but as mentioned previously, was subjected to periods of very high temperatures. The highest yielding varieties in the early trial were Mirai 336BC, Obsession, 7902, BSS5426 and 7932MR (Table 3).

### **Mid-Season Trial Yield**

The mid-season trial of eighteen bicolor supersweet fresh market sweet corn varieties was planted into Pepperbox loamy sand, 0 to 2 percent slopes on May 11, 2012. Soil temperature during the first 14 days after planting averaged 69°F at a two inch depth under sod, with daily maximum temperatures averaging 72°F and daily minimum temperatures averaging 66°F. Emergence at 24 days after planting ranged from 96% to 79% and there were statistically significant differences in emergence between the varieties; however with more ideal soil temperatures there was less separation between the varieties than in the early trial (Table 1). CSAFG10-426 again had the lowest percent emergence of all of the varieties, whereas, Marquette, which had 76% emergence in the early trial had 87% emergence in this trial. There were no significant differences between the final harvest section stands of the varieties. This is because the harvest section was chosen in such a way as to avoid areas with low stand, thereby minimizing (but not eliminating) the effects of stand reduction on yield comparisons. Evaluation of varieties for seed vigor, should therefore be based on the emergence data at 24 DAP.

This trial was irrigated but because it was located on a very sandy soil it experienced drought stress as well as high temperatures. Despite the high temperatures, heat scalding injury was not observed in this trial. The highest yielding varieties in the Mid-Season Trial were CAABF10-413, Obsession, Marquette, 7932MR, CSABF9-357, 7902, XTH 2074, ACR SS2740R, and Mirai 311BC (Table 4).

### Ear and Plant Characteristics

There were significant differences in plant height, height of the first ear, and tillers per plant between varieties in the early planting (Table 2). CSABF9-357 was the tallest variety in the trial and Xtra-Tender 274A and Marquette were the shortest. Plant height, ear height and tillering were not evaluated in the mid-season trial.

In the early trial there were significant differences between the varieties for all of the ear characteristics evaluated except ease of picking (Table 5). In the mid-season trial there were significant differences between the varieties for all of the ear characteristics evaluated, including ease of picking (Table 6). None of the varieties were rated as hard to pick. Tip cover and tip fill are discussed further below.

### Overall Variety Assessment

Obsession, 7932MR and 7902 were top yielding varieties in both trials. These three varieties had good tip fill and 7932MR and 7902 had among the best tip coverage. Obsession and 7932 were rated as average for taste, and 7902 was rated above average. Obsession and 7902 also had very good percent emergence in the early planted trial. Mirai 336BC yielded well in the early trial and had good tip fill and tip cover in this trial, as well as an above average taste rating. However Mirai 336BC did not have good early emergence and did not produce as high a yield in the drought stressed mid-season trial. XTH 2074 yielded well in the mid-season trial, had good tip cover and tip fill and above average taste rating. However, this variety was not evaluated in the early trial because the seed arrived after planting. CAABF10-413 yielded well in the heat and drought stressed mid-season trial and overall appeared the least stressed of the varieties in this trial, but yields for this variety were not as impressive in the early trial.

	Taste	% Emergence	Yield (ears per acre)		Tip Cover (cm)		Tip Fill (cm)	
		Early	Early	Mid	Early	Mid	Early	Mid
CAABF10-413	above average	82.7	19167	24684	3.2	3.1	0.4	0.9
Obsession	average	96.8	23377	24103	3.6	2.7	0.0	0.6
Marquette	above average	75.5	15101	23523	3.2	2.3	1.7	0.5
7932MR	average	86.7	20328	22652	4.4	5.3	0.6	0.0
CSABF9-357	average	81.7	18441	22216	4.7	4.0	0.8	0.1
7902	above average	91.8	21490	22070	4.5	4.0	0.0	0.1
XTH 2074	above average			21925		4.1		0.2
ACR SS2740R	above average	83.6	18586	20909	4.4	3.6	0.0	0.1
Mirai 311BC	above average	86.4	17134	20328	3.6	3.8	0.9	0.3
ACX MX1504MRBC	below average	84.7	20037	20038	2.1	0.4	1.1	3.0
BSS5426	above average	87.8	21054	19457	4.3	4.6	0.0	0.0
CSAFG10-426	average	71.3	16843	18731	4.7	4.2	0.4	0.5
Mirai 336BC	above average	80.0	24249	18586	5.2	4.7	0.7	0.6
Fantastic	above average	89.3	19021	18586	3.8	3.3	0.6	0.4
Xtra-Tender 2171	below average	92.8	18586	18440	2.7	1.4	0.0	0.6
Xtra-Tender 2573	average	92.0	14085	18295	3.0	2.4	1.5	0.2
7112	average	89.3	17569	18150	5.7	5.8	0.6	0.2
Xtra-Tender 274A	above average	93.7	18731	16117	3.2	4.1	1.9	0.5

## 2012 University of Delaware Bicolor Fresh Market Supersweet Sweet Corn Trials

**Table 1. 2012 Bicolor Fresh Market Supersweet Sweet Corn Trials: Whole Plot Emergence and Final Stand Counts**

Variety	Early Trial Emergence 26 DAP	Early Trial Harvest Section Final Stand	Mid-Season Trial Emergence 24 DAP	Mid-Season Trial Harvest Section Final Stand
Obsession	96.8 a	98.2 b	96.0 a	103.7 a
Xtra-Tender 274A	93.7 ab	99.4 ab	91.4 abc	101.2 a
Xtra-Tender 2171	92.8 abc	92.1 bc	93.9 a	100.0 a
Xtra-Tender 2573	92.0 bc	90.2 bc	94.9 a	99.4 a
7902	91.8 bcd	99.4 ab	83.1 de	107.3 a
7112	89.3 cde	99.4 ab	91.9 abc	99.4 a
Fantastic	89.3 cde	100.0 ab	91.0 abc	102.4 a
BSS5426	87.8 def	96.3 bc	93.2 ab	100.6 a
7932MR	86.7 efg	99.4 ab	85.7 cd	103.0 a
Mirai 311BC	86.4 efg	90.9 bc	92.2 ab	98.2 a
ACX MX1504MRBC	84.7 fgh	89.6 bc	93.5 a	112.2 a
ACR SS2740R	83.6 ghi	84.8 c	91.8 abc	97.6 a
CAABF10-413	82.7 ghi	92.1 bc	92.2 ab	101.8 a
CSABF9-357	81.7 hi	93.9 bc	90.4 abc	100.0 a
Mirai 336BC	80.0 i	110.4 a	83.3 de	101.8 a
Marquette	75.5 j	90.9 bc	86.9 bcd	98.8 a
CSAFG10-426	71.3 k	88.4 bc	78.9 e	93.3 a
XTH 2074			93.8 a	113.4 a
<i>p-value</i>	<b>&lt;0.0001</b>	<b>0.0149</b>	<b>&lt;0.0001</b>	<b>0.0819</b>
<i>LSD<sub>0.05</sub></i>	<b>4.03</b>	<b>11.59</b>	<b>6.35</b>	<b>NA</b>



**Table 2. 2012 Bicolor Fresh Market Supersweet Sweet Corn: Early Trial Plant Characteristics**

<b>Variety</b>	<b>Plant Height (ft)</b>	<b>Height of 1<sup>st</sup> Ear (ft)</b>	<b>Tillers/Plant</b>
CSABF9-357	5.8 a	1.5 bc	0.5 fg
BSS5426	5.6 b	1.5 bc	0.7 ef
Obsession	5.6 b	1.6 ab	1.3 bcd
CSAFG10-426	5.5 b	1.4 cd	1.8 a
Mirai 336BC	5.3 c	1.6 ab	1.5 abc
CAABF10-413	5.3 c	1.7 a	0.8 e
Xtra-Tender 2573	5.3 c	1.2 f	1.5 abc
7902	5.2 c	1.3 de	1.0 de
Xtra-Tender 2171	5.0 d	1.3 e	1.7 ab
7112	4.9 de	1.6 ab	1.3 cd
Fantastic	4.9 def	1.4 de	0.8 ef
7932MR	4.8 ef	1.3 ef	0.3 g
ACX MX1504MRBC	4.8 ef	1.2 f	1.3 cd
Mirai 311BC	4.8 ef	1.5 c	1.6 abc
ACR SS2740R	4.7 f	1.0 g	1.2 cd
Xtra-Tender 274A	4.5 g	1.0 g	0.8 e
Marquette	4.5 g	1.3 ef	1.3 cd
<i>p-value</i>	<i>&lt;0.0001</i>	<i>&lt;0.0001</i>	<i>&lt;0.0001</i>
<b>LSD</b>	<b>0.1473</b>	<b>0.1301</b>	<b>0.3697</b>

**Table 3. 2012 Early Bicolor Fresh Market Supersweet Sweet Corn Trial: Yield and Harvest Data**

<b>Variety</b>	<b>Days to Harvest</b>	<b># Ears per Acre</b>	<b>Dozen Ears per Acre</b>	<b>Unhusked Wt (lbs/A)</b>	<b>Ears per Plant</b>
Mirai 336BC	90	24249 a	2021 a	17648 a	0.93 abc
Obsession	90	23377 ab	1948 ab	16704 ab	1.00 a
7902	89	21490 abc	1791 abc	14622 bc	0.91 abc
BSS5426	86	21054 abcd	1754 abcd	13518 cde	0.92 abc
7932MR	86	20328 abcde	1694 abcde	12360 cdef	0.87 abcd
ACX MX1504MRBC	86	20037 bcde	1670 bcde	13945 bcd	0.94 ab
CAABF10-413	89	19167 cdef	1597 cdef	12888 cdef	0.88 abcd
Fantastic	82	19021 cdef	1585 cdef	12882 cdef	0.80 bcde
Xtra-Tender 274A	85	18731 cdef	1561 cdef	14056 bcd	0.80 bcde
ACR SS2740R	89	18586 cdef	1549 cdef	12438 cdef	0.92 abc
Xtra-Tender 2171	82	18586 cdef	1549 cdef	11976 cdefg	0.85 abcd
CSABF9-357	85	18441 cdef	1537 cdef	12194 cdefg	0.82 abcde
7112	85	17569 cdefg	1464 cdefg	10846 efg	0.74 cde
Mirai 311BC	82	17134 defg	1428 defg	9888 fg	0.79 bcde
CSAFG10-426	85	16843 efg	1404 efg	11059 defg	0.81 bcde
Marquette	85	15101 fg	1258 fg	9888 fg	0.69 de
Xtra-Tender 2573	82	14085 g	1174 g	9316 g	0.66 e
<i>p-value</i>		<i>0.0008</i>	<i>0.0008</i>	<i>&lt;0.0001</i>	<i>0.0407</i>
<i>LSD<sub>0.05</sub></i>		<i>4130.5</i>	<i>344.2</i>	<i>3009.1</i>	<i>0.1882</i>

**Table 4. 2012 Mid-Season Bicolor Fresh Market Supersweet Sweet Corn Trial: Yield and Harvest Data**

<b>Variety</b>	<b>Days to Harvest</b>	<b># Ears per Acre</b>	<b>Dozen Ears per Acre</b>	<b>Unhusked Wt (lbs/A)</b>	<b>Ears per Plant</b>
CAABF10-413	77	24684 a	2057 a	17526 a	1.02 a
Obsession	75	24103 ab	2009 ab	16640 abc	0.98 ab
Marquette	75	23523 abc	1960 abc	15470 abcd	1.00 ab
7932MR	73	22652 abcd	1888 abcd	14538 abcdef	0.93 abc
CSABF9-357	74	22216 abcd	1851 abcd	15670 abcd	0.93 abc
7902	77	22070 abcd	1839 abcd	17168 ab	0.87 abc
XTH 2074	73	21925 abcd	1827 abcd	14535 abcdef	0.82 bcd
ACR SS2740R	77	20909 abcd	1742 abcd	15354 abcde	0.90 abc
Mirai 311BC	74	20328 abcde	1694 abcde	11044 fgh	0.87 abc
ACX MX1504MRBC	77	20038 bcde	1670 bcde	13884 bcdefg	0.75 cd
BSS5426	75	19457 cde	1622 cde	12397 defgh	0.81 bcd
CSAFG10-426	74	18731 de	1561 de	11076 fgh	0.85 abcd
Fantastic	73	18586 de	1549 de	12514 defgh	0.76 cd
Mirai 336BC	73	18586 de	1549 de	13120 cdefgh	0.76 cd
Xtra-Tender 2171	73	18440 de	1537 de	11866 efgh	0.77 cd
Xtra-Tender 2573	73	18295 de	1525 de	12236 defgh	0.78 cd
7112	73	18150 de	1513 de	9932 h	0.77 cd
Xtra-Tender 274A	73	16117 e	1343 e	10864 gh	0.67 d
<i>p-value</i>		<b>0.0160</b>	<b>0.0160</b>	<b>0.0003</b>	<b>0.0278</b>
<i>LSD<sub>0.05</sub></i>		<b>4592.4</b>	<b>382.8</b>	<b>3560.8</b>	<b>0.1966</b>

**Table 5. 2012 Early Bicolor Fresh Market Supersweet Sweet Corn Trial: Ear Characteristics\***

Variety	Ease of Picking	# of Flag Leaves	Length of Longest Flag (cm)	Tip Cover (cm)	Ear Length (cm)	Ear Diameter (cm)	Tip Fill (cm)	# of Rows
ACX MX1504MRBC	1.3 a	3.4 defg	21.0 ab	2.1 i	20.6 a	4.3 cd	1.1 bcd	15.6 d
7932MR	1.8 a	3.1 fg	19.8 abcd	4.4 bcd	20.5 ab	4.2 d	0.6 def	16.0 bcd
Mirai 336BC	1.3 a	1.9 h	11.4 hi	5.2 ab	20.5 abc	4.3 cd	0.7 de	13.8 e
Xtra-Tender 274A	2.0 a	4.5 ab	20.2 abc	3.2 fgh	20.3 abcd	4.9 a	1.9 a	17.4 a
CSABF9-357	1.8 a	5.3 a	16.3 defg	4.7 bc	20.3 abcd	4.9 a	0.8 de	15.7 cd
CSAFG10-426	1.5 a	4.0 bcde	19.3 abcde	4.7 bc	20.2 abcde	3.8 f	0.4 ef	16.5 bc
Obsession	1.0 a	2.7 gh	10.4 i	3.6 efg	20.2 abcde	4.3 cd	0.0 f	16.0 bcd
7902	1.5 a	2.9 fg	16.9 cdefg	4.5 bcd	20.0 bcdef	4.9 a	0.0 f	16.8 ab
Marquette	2.0 a	3.5 defg	15.5 efg	3.2 fgh	19.9 cdef	4.3 cd	1.7 ab	14.3 e
Xtra-Tender 2171	2.3 a	4.7 ab	18.0 bcdef	2.7 hi	19.9 cdef	4.8 ab	0.0 f	16.1 bcd
Mirai 311BC	2.8 a	4.2 bcd	14.1 hi	3.6 efg	19.9 def	4.4 cd	0.9 cde	15.7 cd
CAABF10-413	2.0 a	3.5 cdefg	16.4 cdefg	3.2 fgh	19.7 efg	4.8 a	0.4 def	16.4 bcd
BSS5426	2.3 a	3.6 cdef	14.3 fgh	4.3 cde	19.6 fg	3.8 f	0.0 f	16.0 bcd
Xtra-Tender 2573	2.5 a	4.4 bc	22.4 a	3.0 gh	19.4 fgh	4.0 e	1.5 abc	16.3 bcd
ACR SS2740R	2.5 a	4.1 bcde	16.3 cdefg	4.4 cd	19.4 fgh	4.3 cd	0.0 f	14.1 e
Fantastic	2.3 a	3.3 efg	19.2 abcde	3.8 def	19.2 gh	4.4 c	0.6 def	16.7 ab
7112	1.8 a	3.0 fg	18.1 bcdef	5.7 a	18.9 h	4.6 b	0.6 def	16.5 bc
<i>p-value</i>	<b>0.1083</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>
<i>LSD</i>	<b>NA</b>	<b>0.8925</b>	<b>3.8668</b>	<b>0.7608</b>	<b>0.5749</b>	<b>0.1846</b>	<b>0.6981</b>	<b>0.8933</b>

\* Ease of picking rated on a 1 (easy) to 4 (hard) scale; number of flag leaves longer than 5 cm; tip cover measured as distance from tip of ear to end of husk when half husked or length of ear protruding from husk reported as a negative number; tip fill measured as distance from tip of ear to first well filled kernels (a lower number indicates better tip fill).

**Table 6. 2012 Mid-Season Bicolor Fresh Market Supersweet Sweet Corn Trial: Ear Characteristics\***

Variety	Ease of Picking	# of Flag Leaves	Length of Longest Flag (cm)	Tip Cover (cm)	Ear Length (cm)	Ear Diameter (cm)	Tip Fill (cm)	# of Rows
Mirai 336BC	1.3 de	4.2 ab	20.0 a	4.7 bc	20.9 a	4.6 cdef	0.6 bcd	14.7 h
Obsession	2.5 ab	2.7 d	9.0 i	2.7 ghi	20.1 b	4.5 efg	0.6 bc	16.5 abcd
ACX MX1504MRBC	2.3 abc	4.1 ab	16.2 bcd	0.4 k	19.9 bc	4.6 cdef	3.0 a	16.1 abcde
Marquette	2.8 a	3.7 bc	16.4 bcd	2.3 ij	19.8 bcd	4.5 cdef	0.5 bcd	15.1 fgh
7902	1.0 e	3.4 bcd	17.4 abc	4.0 cdef	19.7 bcd	4.7 bcd	0.1 cd	16.4 abcd
CSAFG10-426	2.5 ab	3.3 bcd	14.7 cdef	4.2 cd	19.3 cde	4.4 fg	0.5 bcd	15.8 cdefg
ACR SS2740R	1.3 de	4.1 ab	11.3 fghi	3.6 defg	19.3 cde	4.2 h	0.1 cd	14.7 h
7932MR	2.0 abcd	3.5 bcd	14.7 cdef	5.3 ab	19.3 cde	4.3 gh	0.0 d	16.4 abcd
CAABF10-413	1.5 cde	3.6 bcd	10.2 ghi	3.1 fghi	19.2 de	4.6 bcde	0.9 b	16.5 abcd
CSABF9-357	1.3 de	4.1 ab	13.7 defg	4.0 cdef	19.2 de	4.8 ab	0.1 cd	16.0 bcdef
Xtra-Tender 274A	1.3 de	3.4 bcd	10.1 hi	4.1 cde	18.9 ef	4.7 bc	0.5 bcd	16.6 abc
Xtra-Tender 2171	2.3 abc	4.0 b	12.2 efghi	1.4 j	18.7 ef	4.6 cdef	0.6 bc	14.9 gh
BSS5426	2.5 ab	5.0 a	15.3 cde	4.6 bc	18.3 fg	4.5 defg	0.0 d	17.0 a
Fantastic	1.8 bcde	4.0 b	13.7 defgh	3.3 efgh	18.3 fg	4.9 a	0.4 cd	16.8 ab
Xtra-Tender 2573	2.0 abcd	3.9 b	16.3 bcd	2.4 gi	18.3 fg	4.7 bcde	0.2 cd	16.2 abcde
Mirai 311BC	2.0 abcd	2.7 cd	12.0 efghi	3.8 cdef	18.3 fg	4.6 cde	0.3 cd	15.4 efgh
7112	2.0 abcd	3.6 bcd	19.5 ab	5.8 a	18.0 g	4.2 h	0.2 cd	15.6 defgh
XTH 2074	2.0 abcd	3.9 b	15.6 cde	4.1 cde	17.8 g	4.8 ab	0.2 cd	16.8 ab
<i>p-value</i>	<b>0.0004</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>
<i>LSD</i>	<b>0.8196</b>	<b>0.9604</b>	<b>3.5813</b>	<b>0.9259</b>	<b>0.6622</b>	<b>0.1689</b>	<b>0.5511</b>	<b>0.9749</b>

\* Ease of picking rated on a 1 (easy) to 4 (hard) scale; number of flag leaves longer than 5 cm; tip cover measured as distance from tip of ear to end of husk when half husked or length of ear protruding from husk reported as a negative number; tip fill measured as distance from tip of ear to first well filled kernels (a lower number indicates better tip fill).

**Table 7. 2012 Bicolor Fresh Market Supersweet Sweet Corn Trials: Informal Taste Ratings**

<b>Variety</b>	<b>Taste Rating</b>
ACR SS2740R	above average
7902	above average
BSS5426	above average
Marquette	above average
CAABF10-413	above average
Fantastic	above average
Mirai 311BC	above average
Mirai 336BC	above average
Xtra-Tender 274A	above average
XTH 2074	above average
7932MR	average
7112	average
CSABF9-357	average
CSAFG10-426	average
Obsession	average
Xtra-Tender 2573	average
ACX MX1504MRBC	below average
Xtra-Tender 2171	below average

**Appendix A: Photographs of the Varieties in the 2012 Bicolor Supersweet  
Sweet Corn Trials in Order of Maturity**



**Fantastic**  
*Standard Variety*



**Xtra-Tender 2171**  
*Standard Variety*



**Mirai 311BC**  
*Standard Variety*



**Xtra-Tender 2573**  
*Standard Variety*



**Xtra-Tender 274A**  
*Standard Variety*



**CSABF9-357**  
*Crookham*



**7112**  
*Abbott & Cobb*



**CSAFG10-426**  
*Crookham*





**Marquette**  
*Harris Moran*



**XTH 2074**  
*Illinois Foundation Seed, Inc.*



**BSS5426**  
*Syngenta*



**7932MR**  
*Abbott & Cobb*



**ACX MX1504MRBC**  
*Abbott & Cobb*



**7902**  
*Abbott & Cobb*



**CAABF10-413**  
*Crookham*



**ACR SS2740R**  
*Abbott & Cobb*



**ObSESSION**  
*Standard Variety*



**Mirai 336BC**  
*Standard Variety*



## Appendix B: Weather Conditions During the 2012 Early and Mid Season Supersweet Bicolor Sweet Corn Trials

Weather Data from DEOS Weather Station (<http://www.deos.udel.edu/index.html>)  
at the Carvel Research and Education Center, Georgetown, DE

Date	Days After Planting		Max Temp (°F)	Min Temp (°F)	Rainfall (inches)	Max Soil Temp (°F)	Min Soil Temp (°F)
	Early Trial	Mid- Season Trial					
18-Apr	0		56.6	49.7	0.02	63.2	58.8
19-Apr	1		64.7	45.1	0.02	65.7	57.4
20-Apr	2		73.3	38.3	0	65.7	55.9
21-Apr	3		78.5	50.8	0.47	67.2	58.8
22-Apr	4		58.3	44.1	1.83	64.1	57.1
23-Apr	5		50.3	41	0.01	57.3	54.7
24-Apr	6		60.2	40.4	0	58.7	52.4
25-Apr	7		65.8	35.9	0	60.3	52.3
26-Apr	8		64.8	48.3	0	58.9	55.3
27-Apr	9		59.4	40.3	0	60.4	55.7
28-Apr	10		56.9	32.6	0.23	57.3	52.5
29-Apr	11		63.8	41.3	0.3	62.9	53.8
30-Apr	12		63.2	42.5	0	60.3	54.8
1-May	13		80.1	57.3	0.21	66.2	58.2
2-May	14		63.3	49.7	0.04	64	60.9
3-May	15		74.4	48.6	0.02	67.1	59.7
4-May	16		78.8	53.3	0	69.5	62
5-May	17		73.1	54.7	0	69.2	65.2
6-May	18		65.3	47.4	0	69.2	63.7
7-May	19		70	41.7	0	67.5	60.9
8-May	20		75.4	57.4	0	67.3	62.5
9-May	21		69.3	58.2	1.15	66.6	64.5
10-May	22		65.8	50.1	0.05	66.4	62.7
11-May	23	0	69.1	45.2	0	66.1	59.6
12-May	24	1	75.6	47.2	0	68.1	60
13-May	25	2	78.3	56.2	0	68.6	62.7
14-May	26	3	73.8	60.6	0	67.7	64.8
15-May	27	4	79	64.1	0.25	70.5	65.5
16-May	28	5	82.2	63	0	74.5	67.5
17-May	29	6	70.5	49.6	0	74	68.5
18-May	30	7	69.6	45.6	0	72.6	64.3
19-May	31	8	74.7	46	0	72.2	63.4
20-May	32	9	70.9	49.6	0.85	68.8	63.9
21-May	33	10	73.8	61.5	0.05	71.4	65.8
22-May	34	11	75.7	61.8	0.01	72.5	68.1
23-May	35	12	79.2	62.6	0	74.5	69.2
24-May	36	13	81.2	60.2	0	76.1	69.5
25-May	37	14	82.1	66.6	0	78.6	70.5
26-May	38	15	85.7	61.5	0	80.7	70.4
27-May	39	16	86.2	66.1	0	81.1	72.2
28-May	40	17	88.2	69.6	0	82.4	73.8
29-May	41	18	87.1	72.7	0	83	74.8

Date	Days After Planting		Max Temp (°F)	Min Temp (°F)	Rainfall (inches)	Max Soil Temp (°F)	Min Soil Temp (°F)
	Early Sugary Enhanced Trial	Late Sugary Enhanced Trial					
30-May	42	19	74.3	66.1	0.58	78.1	74
31-May	43	20	83.9	63.4	0.01	82.6	71.8
1-Jun	44	21	82.6	60.9	0.17	81.2	72.9
2-Jun	45	22	73.4	56.9	0.25	78.3	71.7
3-Jun	46	23	77.3	54.7	0	78.3	67.9
4-Jun	47	24	72.5	58	0.11	75.2	69.3
5-Jun	48	25	66.7	51.7	0.03	75.8	67.6
6-Jun	49	26	71.3	47.7	0	75.6	65.1
7-Jun	50	27	78.9	50.7	0.14	77.1	65.3
8-Jun	51	28	82.4	56	0	80.1	66.8
9-Jun	52	29	88.4	62.9	0	81.4	69.7
10-Jun	53	30	92.1	63.1	0	83.8	71.3
11-Jun	54	31	88.6	65.7	0.01	83.1	73.3
12-Jun	55	32	73.6	67.2	0.36	77.1	73.1
13-Jun	56	33	78.7	68.5	0	78.3	72.2
14-Jun	57	34	73.9	62.3	0.01	-	-
15-Jun	58	35	75.6	57.3	0	-	-
16-Jun	59	36	75.6	53	0	-	-
17-Jun	60	37	70.7	51.7	0	-	-
18-Jun	61	38	71.6	45.8	0	-	-
19-Jun	62	39	82.6	63	0.05	-	-
20-Jun	63	40	95.3	65	0	-	-
21-Jun	64	41	96.4	72.2	0	-	-
22-Jun	65	42	94.4	70.8	0	-	-
23-Jun	66	43	88.6	68.8	0	-	-
24-Jun	67	44	89	63.4	0	-	-
25-Jun	68	45	86	69.2	0.02	-	-
26-Jun	69	46	77.6	58.2	0	-	-
27-Jun	70	47	85.6	52.6	0	-	-
28-Jun	71	48	90.7	72.4	0	85.9	77
29-Jun	72	49	99.6	71.1	0	88.1	76.4
30-Jun	73	50	91.5	69.8	0.11	89.2	78
1-Jul	74	51	96.2	71	0	89.2	78.7
2-Jul	75	52	91.4	69.1	0.17	87.8	78.3
3-Jul	76	53	88.6	63.5	0	80.7	75.4
4-Jul	77	54	83.9	79.2	0	88.5	85.1
5-Jul	78	55	98.6	77.9	0	90.9	80.9
6-Jul	79	56	96.3	73.9	0	92.5	81.5
7-Jul	80	57	100.5	72.8	0	92.5	81.3
8-Jul	81	58	95.9	76.4	0.03	94	83.7
9-Jul	82	59	80.6	71.9	0.77	87.4	81.5
10-Jul	83	60	84.9	69.6	0	88.8	78.7
11-Jul	84	61	82.5	67.2	0	85.8	78.5
12-Jul	85	62	82.6	64.7	0	86.1	77.4
13-Jul	86	63	86.9	63.1	0	87.6	77
14-Jul	87	64	83.7	66.4	0.03	83.4	78.6
15-Jul	88	65	89.1	73.8	0	85.6	78.6
16-Jul	89	66	91.1	74.1	0	89.8	79.5
17-Jul	90	67	95.7	72.3	0	91.8	80.8

Date	Days After Planting		Max Temp (°F)	Min Temp (°F)	Rainfall (inches)	Max Soil Temp (°F)	Min Soil Temp (°F)
	Early Sugary Enhanced Trial	Late Sugary Enhanced Trial					
18-Jul		68	97.3	75.9	0	93.5	82.7
19-Jul		69	91.9	72.7	0	90.8	82.9
20-Jul		70	82	69	0.28	86	79.5
21-Jul		71	73.4	68.5	0	79.5	76.8
22-Jul		72	82.3	66	0.02	83.9	75.3
23-Jul		73	88.7	66.7	0	85.8	76.2
24-Jul		74	93	73.1	0	87.4	78.5
25-Jul		75	85	65.6	0	90	77.8
26-Jul		76	93.9	66.4	0	89	78.6
27-Jul		77	93.9	70.4	0	91.2	80.6