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Supersweet Sweet Corn Cultivar Evaluation for Northern Indiana — 2013

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Indiana sweet corn acreage harvested for fresh market averaged 5,633 acres annually from 2010-2012, with a yield of 71 cwt/acre (160 crates or 3.5 tons per acre) and an annual value of $13.7 million (USDA NASS, 2013). Indiana ranked 19th among states for production of fresh market sweet corn and produced about 0.8% of the nation's total in 2012. The 2007 USDA Ag Census reported 603 Indiana farms producing sweet corn for fresh markets and 51 farms selling to processors. Sweet corn fields for fresh market sales are located throughout the state. In northern Indiana, bicolor corn is most commonly grown. Varieties with improved eating quality are of interest to both producers and consumers. Producers are also interested in yield, ear size, appearance, and plant characteristics. 'Supersweet' types are popular in many markets. These varieties have high kernel sugar content and low conversion of sugars to starch, usually due to the *shrunken-2* gene.

This paper reports on three yellow, four white, and 23 bicolor supersweet sweet corn entries that were evaluated at the Pinney-Purdue Agricultural Center in Wanatah, Indiana.

Materials and Methods

The trial was conducted on a Tracy sandy loam. The fall 2012 soil test showed 1.6% organic matter, pH 6.7, and 77 ppm phosphorus (P), 102 ppm potassium (K), 155 ppm magnesium (Mg), and 700 ppm calcium (Ca). Potassium (270 lb./A K_2O from 0-0-60) was applied in fall 2012 and nitrogen (30 lb./A N from 46-0-0) was applied prior to seeding in 2013. An additional 70 lb./acre N from urea ammonium nitrate solution was injected two weeks after seeding.

The trial was set up as a randomized complete block design with three replications. Sweet corn entries were assigned to individual plots one row (30 inches) wide by 30 feet long. One variety (Obsession) had duplicate entries, named Obsession-1 and Obsession-2 for this report. Corn was seeded June 5, 2013, with a finger pick-up planter set to drop seeds 10.125 inches apart (20,600 plants per acre) and later thinned to 35 plants per 30-foot row (20,328 plants per acre).

Weeds were controlled with atrazine (Atrazine 4L®) and s-metolachlor (Dual II Magnum®) applied preplant incorporated and hand weeding. Irrigation was applied from an overhead boom as needed. Permethrin (Arctic 3.2EC®, 4 fl. oz./acre/application) was applied to control caterpillars.

Emergence was evaluated 12 days after planting (DAP) and final stand determined 16 DAP, after thinning. Early plant vigor was evaluated 16 DAP. Shortly before harvest, plant vigor and degree of tiller formation were rated, and plant height and the height from the soil to the middle of the ear were measured for three plants per plot. Each plot was harvested when corn reached marketable stage. Typically, corn reaches the marketable stage 19 to 22 days after 50% silking, but this year cool weather meant corn was ready 28-31 days after silking. For each plot the weight and number of marketable first ears and the number of marketable ears that were fancy were recorded. Ears that touched the soil due to lodging of plants were not considered marketable. Three ears from each plot were selected to evaluate degree of husk cover, husk tightness, degree of tip fill, flag leaf length, overall attractiveness, average ear diameter and

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length after husking, and shank length. Overall ear quality was also rated. One person rated the flavor and pericarp toughness of all entries based on one uncooked ear from each plot. Rating scales are described in table footnotes. Letter ratings for flavor and pericarp toughness were converted to numerical ratings for statistical analysis.

Quantitative data with equal variance across treatments (P>.05) were analyzed using ANOVA followed by mean separation using Fisher's protected least significant difference at $P \leq 0.05$.

Results and Discussion

Weather was cool and wet in June, cool and dry in July, and cool with normal rainfall in August. The growing degree days (GDD) accumulation from June 3 to September 1 was 1,710, 145 less than normal. The USDA National Agricultural Statistics Service Indiana Crop & Weather Reports documented that from June 2 to June 30, rainfall totaled 9.25 inches, (6.4 inches above normal) with over 4 inches falling within a week and half of planting. Soil compaction and resulting poor drainage were worse at one end of the experimental area. This may explain the significant effect of replication observed for yield (dozens or tons per acre), average ear weight and diameter, plant height, ear height, and plant vigor at harvest (data not shown). Plant performance was worst in the replication at the compacted end, and improved in replications farther from that area.

By 12 DAP, emergence averaged 89% of the desired stand, and ranged from 56% to 110% (Table 1). Significant differences in emergence among varieties were observed. BSS 1860 (56%), XTH 1673 (67%), and Awesome (70%) had the poorest emergence and did not differ significantly from one another. Twenty-one entries had emergence between 80% and 100% and did not differ significantly. Emergence of 7602MR, CAPBF10-426, ACR 2220, and XTH 20173 ranged from 100% to 110% of the desired stand, and these varieties did not differ from one another or from eight other entries. Emergence could have been influenced by seed treatments, which varied among varieties depending on the source of the seed, or by the size and shape of seed, which could have affected the exact number of seeds planted. However, entries with low and high emergence included both treated and untreated seed, and in past years emergence has been more uniform despite comparable variability in seed size and shape. Final stand after thinning averaged 17,882 plants per acre, or 88% of the desired stand of 20,328 (Table 1).

Early plant vigor ratings ranged from 2 to 8 on a scale of 1 (extremely low vigor) to 9 (extremely high vigor) (Table 1). Varieties with relatively poor early vigor (a rating of 3 or less) were CAPBF-413, ACR 2220, CAPBF10-427, Obsession-1, AP 358, and ACR 2042. Varieties with relatively good early vigor (a rating of 7 or greater) were X Ten 2573, XTH 2071, Anthem XR, Fantastic, and XTH 2772. Plant vigor rating near harvest (Table 1) was highest for EX08767143 (7.3 out of 9) but that was not significantly greater than 16 other entries. CAPBF10-411 was rated as the least vigorous at harvest with a rating of 3, but was not significantly different from twelve other entries. EX08767143 (7.2 feet) had the tallest plants, but Obsession-1 and -2, XTH 3380, XTH 3174, and Mirai 315 were not significantly shorter (Table 1). The shortest varieties were less than 5.85 feet and included Fantastic, Anthem XR, XTH 2071, CAPBF10-427, XTH 1572, CAPBF10-411, Awesome, and XTH 2074. Most varieties produced small and few tillers; BSS 1860 was an exception with short tillers on most plants (data not shown).

Results for yield and ear quality are presented in Table 2. Per acre yields have been calculated by multiplying plot yields by the number of plots per acre and probably overestimate expected yield from field scale production. Marketable yield averaged 7.7 tons per acre, and ranged from 5.8 to

9.5 tons per acre. 7602MR produced the top yield in tons per acre, but not significantly greater than Fantastic, XTH 2676, CAPBF10-426, EX08767143, CSAWF10-433, XTH 3274, XTH 2074, Obsession-1 and -2, or Anthem XR. Protector produced the lowest yield; CAPBF10-411, ACR 2042, Mirai 315, ACR 2220, CAPBF10-413, XTH 2071, XTH 1673, and BSS 1860 did not produce significantly greater yield than Protector. The number of marketable ears averaged 1,390 dozen per acre. 7602MR produced the greatest number, 1,662, but not significantly more than XTH 2074, CAPBF10-426, Obsession-1 and -2, CSAWF10-433, EX08767143, AP 358, CAPBF10-411, XTH 3380, XTH 3274, XTH20173, XTH 2676, CAPBF10-427, Fantastic, 7112R, or CAPBF10-413. BSS 1860 produced the fewest ears per acre (936 dozen) but not significantly less than Awesome, XTH 1673 or Protector. These four low-yielding varieties also had the lowest emergence, which explains their low yield. The number of marketable ears per plant ranged from 0.81 to 0.99 but did not differ significantly among varieties (data not shown). The percentage of marketable ears that were fancy ranged from 51 to 98% and averaged 86% (Table 1). Varieties with greater than 96% of ears meeting fancy grade included Fantastic, X Ten 2573, Awesome, XTH 2676, and CAPBF10-427. Varieties with less than 80% of marketable ears graded fancy included ACR 2220 (51%), Obsession-1 and -2 (67% and 72%), ACR 2042 (70%), EX08767143 (74%) and XTH 3174 (76%).

Average weight per ear (including the shank) ranged from 0.81 lb. to 1.11 lb. (Table 2). BSS 1860 and Awesome had the heaviest ears in the trial, but not significantly heavier than Fantastic or XTH 2676. The low emergence and resulting low population of BSS 1860 and Awesome probably contributed to their larger ear size. ACR 2220, CAPBF10-411, and CAPBF10-413 all produced ears of 0.81 lb., but were not significantly lighter than eleven other entries. Ear length ranged from 7.4 to 9.3 inches, and diameter ranged from 1.89 to 2.17 inches (Table 2). ACR 2042 produced ears significantly longer than any other variety. Ears of XTH 3174, XTH 1673, and BSS 1680 were between 8.5 and 8.8 inches long and did not differ significantly. Eight other varieties produced ears longer than 8.2 inches, not significantly shorter than BSS 1680. The shortest ears were produced by Protector, XTH 3380, 7112R, and CAPBF10-427, ranging from 7.4 to 7.6 inches long. BSS 1860 produced the widest ears but Fantastic, EX08767143, XTH 3274, Obsession-1 and -2, XTH 3174, and XTH 3380 were not significantly narrower. The narrowest ears were produced by 7112R; other entries with ears less than 2 inches in diameter were not significantly different and included CAPBF10-427, ACR 2042, Protector, XTH 2071, CAPBF10-426, CAPBF10-413, CAPBF10-411, and CSAWF10-433.

Shank length ranged from 2.7 inches to 7.4 inches and averaged 5.2 inches (Table 2). Varieties with shanks longer than 6.0 inches included XTH 2772, Awesome, XTH 2676, X Ten 2573, Fantastic, and Protector; these did not differ significantly. Varieties with shanks less than 4 inches included CAPBF10-411, XTH 3380, Obsession-1 and -2; these did not differ significantly.

Ear height from the soil to mid-ear ranged from 18.0 to 34.8 inches and averaged 26.1 inches (Table 2). Obsession-1 and -2, XTH 3380, EX08767143, CAPBF10-413, and ACR 2220 had ears 31 inches or more above the ground and did not differ significantly. Ear height was less than 24 inches for X Ten 2573, Anthem XR, XTH 20173, XTH 2074, Awesome, CSAWF10-433, CAPBF10-426, Fantastic, and CAPBF10-411, and less than 20 inches for AP 358, and CAPBF10-427.

Husk cover ratings averaged 3.7 (on a 1 to 5 scale, with 5 best) (Table 2). Awesome, 7112R, Protector, 7602MR, CAPBF10-426, AP358, and XTH 2074 were rated above 4.5, indicating

they usually had more than 2 inches of husk covering the ear tip. Husk cover ratings for SAWF10-433, Anthem XR, CAPBF10-427, XTH 2071, XTH 3380, CAPBF10-411, XTH 2772, XTH 1572, Fantastic, and BSS 1860 averaged between 3.6 and 4.4 indicating 1.25 to 2 inches of cover on most ears. ACR 2042 had less than 0.75 inches of husk cover, and on ACR 2220 husks were too short to completely cover the kernels. The husks of ACR 2220, ACR 2042, EX08767143, and XTH 3380 were consistently loose around the ear tip.

Tip fill ratings averaged 4.5 out of 5 (Table 2). Varieties with a rating of 5 for tip fill, indicating ears were filled nearly to the tip, included Awesome, Anthem XR, BSS 1860, Fantastic, 7602MR, XTH 3274, and XTH 3380. Nine other entries had tip fill greater than 4.5. Entries with tip fill less than 4, indicating a few ears with more than ½ inch unfilled at the tip included CAPBF10-413, EX08767143, and XTH 2071.

For overall ear quality, Awesome, Fantastic, XTH 2676, and XTH 2074 received the highest ratings, 7.7 out of 9 (Table 2). Other varieties rated greater than the trial average of 5.6 included CAPBF10-427, Anthem XR, 7112R, XTH 2772, CSAWF10-433, CAPBF10-426, 7602MR, XTH 1572, BSS 1860, AP 358, and XTH 1673.

Flavor and pericarp ratings are shown in Table 1. Entries with flavor ratings greater than 4.5 on a 5-point scale included XTH 1572, ACR 2042, XTH 2676, CAPBF10-411, XTH 3174, and XTH 20173. Entries with flavor ratings less than 3 included Obsession-2 and Protector. Varieties with the least tough pericarp included Anthem XR, CAPBF10-411, X Ten 2573, and 7112R. Varieties with the toughest pericarp were 7602MR and Protector.

Comparing varieties within a maturity range and color can be useful. Among the five bicolor entries with predicted maturity of 71 to 73 days, Anthem XR and XTH 2772 generally seemed more promising than XTH 2071, XTH 20173, or X Ten 2573. The long shanks of XTH 2772 might be considered undesirable, however. Among the bicolor varieties with a maturity of 74 to 76 days, 7602MR performed well in terms of yield and ear quality, but pericarp was rated tough. XTH 2074, Fantastic, and XTH 2676 had good yields and ear quality and reasonable ear size. XTH 2676 was very similar to Fantastic, but with ears a little higher off the ground. Two entries in this group had ears only 7.6 inches long: 7112R and CAPBF10-427. Of these, 7112R had a bigger and more vigorous plant with ears much higher off the ground. Awesome had excellent ear quality, but as mentioned above, had low yield associated with low emergence. It has performed well in the past. Among the bicolors with a maturity of 77 to 80 days AP 358 and CAPBF10-426 appeared to have the best combination of yield and ear quality, but vigor was low for AP 358 and ears were less than 20 inches from the ground. EX08767143 was quite similar to Obsession, with good yield and ear size, but flag leaves tended to be longer on EX08767143. Aside from the low yield due to low emergence, BSS 1860 performed reasonably well.

Of the two 72-73 day yellow varieties, XTH 1572 tended to have better yield and ear quality than XTH 1673, although ears and plants were shorter for XTH 1572. Protector, the 79-day yellow variety, produced short ears with decent appearance but low ratings for eating quality.

Of the four white varieties, the 80-day CSAWF10-433 seemed to have the best package of yield and ear quality, but the 76-day XTH 3174 was notable for long ears (8.8 inches). XTH 3274, a 73-day white variety also yielded well.

The cool and wet spring caused serious stress early at the start of the season, particularly in the compacted area of the trial. The cool weather slowed corn development compared to a more

typical year, but yield and ear quality did not appear to be compromised except where emergence was poor. Evaluation of results presented here combined with results from other locations and years should aid producers in selecting varieties best suited to their operations.

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Table 1. Emergence as percent of desired stand, stand after thinning, percent of marketable ears graded fancy, plant characteristics, and eating quality for supersweet sweet corn varieties in northern Indiana, 2013. Varieties listed in order of maturity.

Cultivar	Color[1]	Days to Harvest[2]	Emergence *%*	Stand *no./A*	Fancy Ears *%*	Plant Height *ft*	Plant Vigor[3]		Flavor[3]	Pericarp[3]
							Early	Late		
XTH 2071	B	71	97	19,166	86.9 ±2.7	5.7	7.7 ±0.9	4.3	3.7 ±0.3	2.3 ±0.3
Anthem XR	B	72	84	17,037	93.0 ±5.5	5.8	7.7 ±0.3	6.3	4.0 ±0.0	3.5 ±0.5
XTH 1572	Y	72	86	17,230	88.0 ±2.1	5.6	6.7 ±0.3	5.7	5.0 ±0.0	3.0 ±0.6
XTH 2772	B	72	86	17,424	89.0 ±9.4	5.9	8.0 ±0.6	5.7	4.0 ±0.0	3.0 ±0.0
XTH 1673	Y	73	67	13,552	92.3 ±2.1	6.3	4.3 ±0.3	6.0	4.0 ±0.0	3.0 ±0.0
XTH 20173	B	73	100	19,941	91.4 ±5.7	6.1	4.7 ±0.7	4.3	4.7 ±0.3	2.7 ±0.3
X Ten 2573	B	73	82	16,650	97.5 ±2.5	6.0	7.3 ±0.3	5.0	4.3 ±0.3	3.3 ±0.3
XTH 3274	W	73	97	19,554	93.3 ±3.4	6.2	6.7 ±0.9	6.3	4.0 ±0.6	2.7 ±0.7
XTH 2074	B	74	85	17,230	93.8 ±0.1	5.5	6.3 ±0.9	4.7	4.3 ±0.7	2.7 ±0.3
Fantastic	B	75	89	18,005	97.6 ±1.2	5.8	7.7 ±0.3	6.7	4.3 ±0.3	2.7 ±0.3
7112R	B	75	96	18,973	92.8 ±4.3	6.5	5.0 ±1.0	5.7	3.7 ±0.3	3.3 ±0.3
CAPBF10-427	B	75	87	17,618	96.1 ±3.9	5.7	3.0 ±0.6	3.3	4.3 ±0.3	2.3 ±0.3
CAPBF10-411	B	75	99	19,941	82.7 ±10.3	5.5	5.3 ±0.9	3.0	4.7 ±0.3	3.3 ±0.7
Mirai 315	B	75	79	16,069	82.9 ±7.0	6.8	4.0 ±1.0	4.0	4.3 ±0.3	2.3 ±0.3
XTH 2676	B	–	92	18,198	96.2 ±3.8	6.1	5.7 ±0.9	6.0	4.7 ±0.3	3.0 ±0.6
Awesome	B	76	70	14,133	97.3 ±1.4	5.5	6.0 ±0.0	6.3	4.0 ±0.0	2.7 ±0.3
7602MR	B	76	110	20,328	91.3 ±2.8	6.7	4.3 ±0.3	6.3	3.3 ±0.7	1.3 ±0.3
XTH 3174	W	76	92	17,618	76.2 ±3.3	6.9	4.0 ±0.6	3.7	4.7 ±0.3	2.7 ±0.3
AP 358	B	77	91	18,779	85.1 ±4.1	6.0	3.0 ±0.0	3.3	4.3 ±0.3	3.0 ±0.0
CAPBF10-426	B	78	105	20,328	91.4 ±7.1	6.4	5.0 ±0.0	4.7	3.5 ±0.5	3.0 ±0.0
BSS 1860	B	78	56	11,422	91.1 ±4.8	6.2	5.0 ±1.2	5.7	4.0 ±0.6	2.3 ±0.3
Protector	Y	79	75	15,294	80.7 ±9.9	6.3	4.3 ±0.7	4.0	2.0 ±0.6	1.0 ±0.0
Obsession-2	B	79	96	19,554	72.1 ±6.1	7.1	4.0 ±0.0	5.7	2.7 ±0.3	1.7 ±0.7
Obsession-1	B	79	91	18,586	67.2 ±3.1	7.0	3.0 ±0.0	6.3	3.7 ±0.3	2.0 ±0.6

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Table 1 (continued)

Cultivar	Color[1]	Days to Harvest[2]	Emergence *%*	Stand *no./A*	Fancy Ears *%*	Plant Height *ft*	Plant Vigor[3]		Flavor[3]	Pericarp[3]
							Early	Late		
ACR 2220	B	–	103	19,747	50.8 ±19.0	6.3	2.3 ±0.3	5.3	3.3 ±0.3	2.0 ±0.6
XTH 3380	W	80	98	19,360	88.0 ±2.8	7.1	4.3 ±0.7	6.7	3.3 ±0.3	2.0 ±0.6
CAPBF10-413	B	80	87	17,618	80.8 ±4.1	6.6	2.0 ±0.0	6.7	4.3 ±0.3	3.0 ±0.0
CSAWF10-433	W	80	93	18,779	91.2 ±3.0	6.0	5.0 ±0.0	5.0	3.7 ±0.3	2.7 ±0.3
ACR 2042	B	–	99	19,941	69.5 ±6.9	6.3	3.0 ±0.6	3.7	5.0 ±0.0	1.7 ±0.3
EX08767143	B	80	90	18,392	74.3 ±8.2	7.2	4.0 ±0.6	7.3	3.3 ±0.7	1.7 ±0.3
Grand Mean			*89*	*17,882*	*86.0*	6.2	*5.0*	*5.3*	*4.0*	*2.5*
LSD .05[4]			*18*	–	–	0.39	–	*2.0*	–	–

[1]Color: B=bicolor; W=white; Y=yellow.
[2]Days from planting to harvest from seed supplier.
[3]Plant vigor: 1=least vigorous; 9=most vigorous; Flavor: 5=Excellent; 3=Good; 1=Poor; Pericarp: 4= Not tough; 3=Somewhat tough; 2=Tough; 1=Very tough. Mean ± s.e.m. if LSD not performed.
[4]Means differing by more than this amount are significantly different at $P \leq .05$ based on Fisher's Protected LSD. Means followed by the same letter do not differ significantly. – AOV not performed.

Table 2. Yield, ear size, and quality of supersweet sweet corn varieties in northern Indiana, 2013. Varieties listed in order of maturity.

Cultivar	Seed Source[1]	Color[2]	Days to Harvest[3]		Yield of Marketable Ears		Avg. Ear Weight *lb*	Ear Length *in*	Ear Dia. *in*	Shank Length *in*	Ear Ht. *in*	Husk Cover[4]	Husk Tight[4]	Tip Fill[4]	Over-all[4]
			Pred.	Actual	*doz/A*	*ton/A*									
XTH 2071	IFS	B	71	79-82	1,307	6.7	0.85	8.1	1.96	4.8	24.9	4.2 ±0.1	1.9 ±0.3	3.9 ±0.4	4.0 ±1.0
Anthem XR	IFS	B	72	77-83	1,387	8.2	0.98	7.8	2.06	5.5	23.6	4.4 ±0.1	2.3 ±0.2	5.0 ±0.0	7.3 ±0.3
XTH 1572	IFS	Y	72	82-83	1,307	7.4	0.95	8.0	2.04	4.8	24.0	4.0 ±0.2	2.2 ±0.4	4.8 ±0.2	6.7 ±0.7
XTH 2772	IFS	B	72	82-83	1,323	7.7	0.97	8.0	2.06	7.4	24.4	4.0 ±0.2	2.3 ±0.2	4.8 ±0.2	7.3 ±0.7
XTH 1673	IFS	Y	73	77-82	1,113	6.5	0.98	8.6	2.06	5.0	28.2	2.6 ±0.4	1.2 ±0.2	4.7 ±0.3	5.7 ±0.9
XTH 20173	IFS	B	73	82-83	1,452	7.7	0.88	8.0	2.04	4.4	23.1	2.9 ±0.2	1.1 ±0.1	4.2 ±0.5	3.7 ±0.3
X Ten 2573	RU	B	73	82-84	1,323	7.4	0.93	8.0	2.03	6.4	23.6	3.1 ±0.3	1.7 ±0.2	4.4 ±0.6	5.3 ±0.3
XTH 3274	IFS	W	73	83-88	1,468	8.6	0.98	8.0	2.10	5.2	26.0	2.9 ±0.3	1.2 ±0.1	5.0 ±0.0	4.3 ±0.9
XTH 2074	IFS	B	74	82-83	1,565	8.6	0.92	7.9	2.00	5.8	23.0	4.6 ±0.2	2.0 ±0.5	4.8 ±0.2	7.7 ±0.9
Fantastic	ST	B	75	79-83	1,420	9.2	1.08	8.3	2.10	6.3	21.7	3.9 ±0.2	1.6 ±0.1	5.0 ±0.0	7.7 ±0.3
7112R	AC	B	75	83-84	1,420	7.4	0.86	7.6	1.89	5.8	27.7	5.0 ±0.0	2.2 ±0.4	4.9 ±0.1	7.3 ±0.7
CAPBF10-427	CR	B	75	83-86	1,436	7.3	0.85	7.6	1.93	5.2	18.0	4.3 ±0.2	2.3 ±0.3	4.4 ±0.3	7.5 ±0.5
CAPBF10-411	CR	B	75	83.0	1,484	7.2	0.81	7.8	1.99	2.7	20.2	4.1 ±0.2	1.7 ±0.0	4.4 ±0.3	5.3 ±1.2
Mirai 315	RU	B	75	88.0	1,258	6.8	0.91	8.3	2.06	4.8	30.7	3.3 ±0.0	1.3 ±0.3	4.7 ±0.2	5.0 ±1.2
XTH 2676	ST	B	–	77-83	1,436	9.1	1.04	8.3	2.06	6.8	25.2	3.4 ±0.3	1.3 ±0.0	4.8 ±0.1	7.7 ±0.3
Awesome	ST	B	76	79-83	1,129	7.4	1.11	7.8	2.06	7.3	22.8	5.0 ±0.0	2.4 ±0.3	5.0 ±0.0	7.7 ±0.3
7602MR	AC	B	76	83.0	1,662	9.5	0.95	8.3	2.01	4.9	28.4	4.7 ±0.0	1.2 ±0.1	5.0 ±0.0	6.7 ±0.9
XTH 3174	IFS	W	76	88.0	1,355	7.4	0.91	8.8	2.08	5.5	25.9	3.4 ±0.4	1.4 ±0.3	4.1 ±0.1	5.0 ±0.6
AP 358	RU	B	77	77-82	1,500	7.7	0.86	8.1	2.01	4.7	18.9	4.6 ±0.4	1.7 ±0.2	4.1 ±0.3	6.0 ±0.6
CAPBF10-426	CR	B	78	77-82	1,549	8.9	0.95	8.3	1.97	6.0	22.4	4.6 ±0.1	1.7 ±0.5	4.0 ±0.2	7.0 ±0.6
BSS 1860	SY	B	78	82-83	936	6.3	1.11	8.5	2.17	4.9	25.6	3.6 ±0.1	1.7 ±0.3	5.0 ±0.0	6.0 ±1.0
Protector	SY	Y	79	82-83	1,113	5.8	0.86	7.4	1.94	6.2	28.4	4.9 ±0.1	1.7 ±0.3	4.2 ±0.5	5.3 ±1.5
Obsession-2	SE	B	79	82-83	1,549	8.2	0.88	8.2	2.07	3.7	32.2	3.2 ±0.3	1.6 ±0.4	4.0 ±0.0	4.3 ±0.9
Obsession-1	SE	B	79	82-86	1,517	8.0	0.88	8.2	2.10	3.7	34.8	3.4 ±0.4	1.2 ±0.1	4.1 ±0.3	3.0 ±0.0
ACR 2220	AC	B	–	82-86	1,387	6.8	0.81	8.0	2.01	5.9	31.6	1.3 ±0.2	1.0 ±0.0	4.9 ±0.1	2.0 ±0.6

Continued on next page

Table 2 (continued)

Cultivar	Seed Source[1]	Color[2]	Days to Harvest[3]		Yield of Marketable Ears		Avg. Ear Weight *lb*	Ear Length *in*	Ear Dia. *in*	Shank Length *in*	Ear Ht. *in*	Husk Cover[4]	Husk Tight[4]	Tip Fill[4]	Over-all[4]
			Pred.	Actual	*doz/A*	*ton/ A*									
XTH 3380	IFS	W	80	77-82	1,484	7.7	0.86	7.5	2.08	3.5	33.9	4.1 ±0.3	1.0 ±0.0	5.0 ±0.0	5.0 ±0.6
CAPBF10-413	CR	B	80	83-88	1,404	6.8	0.81	7.8	1.97	4.2	31.9	2.9 ±0.3	1.6 ±0.3	3.8 ±0.2	3.7 ±0.3
CSAWF10-433	CR	W	80	86-88	1,533	8.6	0.94	8.2	1.99	5.7	22.7	4.4 ±0.3	2.1 ±0.1	4.8 ±0.2	7.3 ±0.3
ACR 2042	AC	B	–	86-88	1,387	7.0	0.84	9.3	1.93	4.3	27.7	2.0 ±0.2	1.0 ±0.0	4.3 ±0.0	2.7 ±0.3
EX08767143	SE	B	80	88.0	1,500	8.8	0.98	8.2	2.10	4.2	32.3	3.2 ±0.2	1.0 ±0.0	3.9 ±0.1	4.0 ±0.0
Grand Mean				*83.4*	*1,390*	*7.7*	*0.93*	*8.1*	*2.03*	*5.2*	*26.1*	*3.7*	*1.6*	*4.5*	*5.6*
LSD .05[5]				–	*269*	*1.5*	*0.10*	*0.3*	*0.11*	*1.3*	*3.4*	–	–	–	–

[1]Seed Source: AC=Abbott & Cobb; CR=Crookham IFS=Illinois Foundation Seed; RU=Rupp; SE=Seminis; ST=Stokes; SY=Syngenta.
[2]Color: B=bicolor; W=white; Y=yellow.
[3]Days from planting to harvest. Predicted number is from seed supplier. Actual values are range for 3 replications.
[4]Husk cover: 5=more than 2 inches cover; 4=1.25-2 inches; 3=0.75-1.25 inches; 2=less than 0.75 inch; 1=ear exposed. Husk tightness: 1=loose; 3=very tight; Tip fill: 5=kernels filled to tip of cob; 4=less than 0.5 inch unfilled; 3=0.5-1 inch unfilled; 2=more than 1 inch unfilled; 1=more than 2 inches unfilled; Overall: 1=worst. 9 =best. Mean ± s.e.m.
[5]Means differing by more than this amount are significantly different at $P \leq .05$ based on Fisher's Protected LSD. Means followed by the same letter do not differ significantly. – AOV not performed.