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Elizabeth Maynard

*Purdue University - Main Campus*, [emaynard@purdue.edu](mailto:emaynard@purdue.edu)

Erin A. Bluhm

*Purdue University*, [ebluhm@purdue.edu](mailto:ebluhm@purdue.edu)

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# Supersweet Sweet Corn Cultivar Evaluation for Northern Indiana, 2017

**Elizabeth T. Maynard and Erin A. Bluhm, Purdue University**  
**PO Box 1759, Valparaiso, IN 46384 emaynard@purdue.edu**

Indiana sweet corn acreage harvested for fresh market averaged 5,233 acres annually from 2013-2015, with a yield of 68 hundredweight per acre (162 crates or 3.4 tons per acre) and an annual value of \$13.4 million (USDA NASS, 2017a). Indiana ranked 16th among states for production of all sweet corn and produced about 0.6% of the nation's total in 2016. The 2012 USDA Ag Census reported 535 Indiana farms producing sweet corn for fresh markets and 69 farms selling to processors (USDA NASS, 2014). 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 agronomic characteristics.

This paper reports on fifteen bicolor, two yellow, and two white 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 2016 soil test showed 1.6% organic matter, pH 6.6, and 73 ppm phosphorus (P), 147 ppm potassium (K), 160 ppm magnesium (Mg), and 600 ppm calcium (Ca). Nitrogen, 40 lb./A N from urea, was broadcast and incorporated on April 12, 2017. An additional 60 lb./A N from urea ammonium nitrate solution was injected on June 9.

The trial was set up as a randomized complete block design with three replications. Sweet corn entries were assigned to individual plots one row wide (30 inches) by 30 feet long. The variety Anthem was seeded in two plots per rep, and treated as separate entries for statistical analysis, noted as Anthem-1 and Anthem-2. Corn was seeded May 16, 2017, 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). Two guard rows were planted along each north and south edge of the experimental area.

Weeds were controlled with atrazine (Atrazine 4L<sup>®</sup>) and s-metolachlor (Dual II Magnum<sup>®</sup>) applied preplant incorporated and with hand weeding. About 1/2 inch of irrigation was applied from an overhead boom on June 12.

Emergence was evaluated 9 and 14 days after planting (DAP) and final stand determined 22 DAP, after thinning. Plant vigor was evaluated 22 DAP and shortly before harvest. Also shortly before harvest, plant height, and the height from the soil to the middle of the top ear was measured for three plants per plot, and degree of tillering was rated. Each plot was harvested when corn reached marketable stage, which occurred 20 to 24 days after 50% silking. For each plot the weight and number of marketable first ears and number of marketable ears that were fancy were recorded. 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 length after husking, and shank length. Overall ear quality was also rated. Three individuals rated flavor and pericarp toughness of an uncooked ear, one ear per plot per individual. Rating scales

are described in table footnotes. Letter ratings for flavor and pericarp toughness were converted to numerical ratings and averaged across raters prior to 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  $P \leq 0.05$ . When one variety showed a variance of 0 for a particular trait, ANOVA was conducted without that varieties to achieve equal variances. Regression analyses were used to evaluate correlation between mean responses for each entry and mean days to harvest (DAP);  $r^2$  values for linear regressions significant at  $P \leq .05$  are reported.

## Results and Discussion

The growing season from May 15 to August 6 was close to normal in temperature and rainfall accumulation: growing degree days (GDD, base 50°F) totaled 1,666, 53 more than normal, and 11.83 inches of rain fell, 0.27 more than normal. Temperatures were at or just below normal the first 10 days after planting, and averaged 1.2°F above, 0.3°F below, and 3.4°F below normal in June, July, and August, respectively. Soil temperature at 4 inches averaged 65°F the week plots were seeded. Rainfall was more than 0.25 inch above normal the last two weeks of May, 1.73 inches below normal in June, 1.26 above normal in July, and about normal during the harvest period in August. Between April 10 and May 14, nearly 6 inches of rain fell, 1.8 inches more than normal. It is likely that more preplant nitrogen was lost this year than in previous years when it was applied closer to the seeding date. (USDA NASS 2017b and MRCC 2017.)

Corn emerged quickly. By 9 DAP, emergence ranged from 60% to 100% of the desired stand of 20,328 plants per acre (Table 1). Seed treatments varied among entries, but all except BSS 8021 had some sort of commercial seed treatment. Varieties with emergence 83% or better did not differ significantly from the best (Everglades) and included Eden (white), Nirvana, Yellowstone (yellow), BSS 1075, AP 426, and American Dream. Nirvana also had good emergence in the 2015 trial at this location (Maynard and Calsoyas, 2016). BSS 0761 had the lowest emergence, 60%. Final plant stand did not differ significantly among varieties.

Early plant vigor ranged from 2.7 to 8.3 on a scale of 1 (poor) to 9 (excellent) and averaged 5.8 (Table 1). Anthem, Hero XR, Rosie, Raquel, and Yellowstone (yellow), all received ratings of 6.7 or above for early vigor. In 2015 Anthem also had good early vigor. Varieties with low early vigor (ratings of 4.3 or below) this year included BSS 0761, Eden (white), AP 426, and Nirvana. BSS 0761 and AP 426 also had below average early vigor in the 2015 trial. Plant vigor ratings near harvest ranged from 5.0 to 8.0 and averaged 6.6 (Table 1). Varieties with ratings of 7.3 or above included Yellowstone (yellow), WSS 80712 (white), BSS 1075, CSHBP 13-672, and Everglades. Late varieties tended to receive higher ratings for plant vigor near harvest.

Plant height ranged from 5.1 to 6.7 feet and averaged 5.9 feet (Table 1). Varieties over 6.3 ft. did not differ from the tallest (CSHBP 13-672) and included BSS 1075, BSS 0761 (also among the tallest in 2015), Yellowstone (yellow) and AP 426. The shortest varieties were 5.5 ft. or less and included Hero XR, Nirvana and Cumberland (both among the shortest in 2015), Rosie, CAPBF 12-525, and Eden (white). Days to harvest explained 55% of the variation in plant height: later varieties tended to be taller. For an early variety, Raquel was exceptionally tall.

Tiller ratings ranged from 1.0 to 3.0 on a scale of 1 (no tillers) to 5 (many tillers tall enough to interfere with harvest) and averaged 1.9. Nirvana, Everglades, Kate, and Rosie consistently received ratings of 1.

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 5.4 to 10.3 tons per acre. Differences among entries were highly significant. CSHBP 13-672 produced the highest weight of marketable ears, 10.3 tons per acre, but not significantly higher than BSS 1075. AP 426, Kate, Everglades, Elle (yellow), Rosie, Anthem-2, Yellowstone (yellow), Hero XR, and BSS 0761 all produced at least 7.7 tons per acre, not significantly lower than BSS 1075. Anthem-1, WSS 8072, BSS 8021, and American Dream produced yield between 5.4 and 6.6 tons per acre, significantly lower than the top yielding varieties but not significantly different from one another. Later varieties tended to produce more tons per acre.

Marketable ear yield in dozens per acre ranged from 1,145, to 1,629 and averaged 1,348. Everglades and Eden (white) produced the most but did not differ significantly from Nirvana, AP 426, Yellowstone (yellow), BSS 1075, Anthem-2, or Hero XR; all produced more than 1404 dozen per acre. Nirvana was also among the top producing varieties in 2015.

The number of fancy ears ranged from 468 to 1,291 dozen per acre and averaged 876 (data not shown). Differences among entries were not significant ( $P=0.061$ ). The percent of ears that were fancy did differ significantly among varieties, ranging from 28% to 91%, and averaging 66% (data not shown). Varieties split into two main groups: those with at least 65% of ears graded fancy did not differ from Hero XR at 91% and included CSHBP-13-625, AP 426, Anthem, BSS 8021, Cumberland, Kate, Rosie, BSS 0761, WSS 8072, Yellowstone (yellow), Elle (yellow), and American Dream. Anthem, AP 426, Cumberland, and BSS 0761 also had high percentages of fancy ears in the 2015 trial. Varieties that produced less than 55% fancy ears were Everglades, BSS 1075, Nirvana, and Eden (white). This year we saw more damage to ears from bird feeding and this damage prevented some ears from being classified as fancy.

Average weight per ear (including the shank) ranged from 0.72 to 1.42 lb. and averaged 0.96 lb. Differences among entries were highly significant ( $P<0.0001$ ). CSHBP 13-672 had the heaviest ears. Rosie, Raquel, Elle (yellow), Kate, BSS 0761, BSS 1075, and Cumberland were all heavier than 1.0 lb. but did not differ significantly from one another. AP 426, Anthem, BSS 8021, Hero XR, WSS 8072, CAPBF 12-525, Yellowstone (yellow), and Everglades produced ears between 0.95 and 0.85 lb. and did not differ from one another. Eden (white), American Dream, and Nirvana produced the lightest ears, between 0.72 and 0.77 lb.

Ear length ranged from 6.8 to 9.2 inches, and diameter ranged from 1.86 to 2.21 inches. CSHBP 13-672 had the longest ears, followed by Raquel (8.6), and then Elle (8.1, yellow). Rosie, Cumberland, Everglades, and BSS 1075 all produced ears longer than 7.8 inches and did not differ significantly from Elle. Kate, BSS 0761, Nirvana, CAPBF 12-525, AP 426, WSS 8072 (white), Anthem-1, Eden (white), and Yellowstone (yellow) were between 7.8 and 7.5 inches long and didn't differ significantly from BSS 1075. American Dream produced the shortest ears, 6.75 inches. Hero XR, BSS 8021, and Anthem-2 were the next shortest, 7.2 to 7.5 inches. Ears of Rosie were the widest but not significantly wider than ears of Raquel. Kate, CSHBP 13-672, Anthem-1, and Cumberland were between 2.10 and 2.04 inches wide and not significantly narrower than Raquel. Elle (yellow), BSS 0761, Anthem-2, BSS 1075, CAPBF 12-525, WSS 8072 (white), Eden (white), AP 426, and Everglades had ears between 2.03 and 1.94 inches, not significantly different from one another or from Cumberland. Yellowstone (yellow) had the narrowest ears, 1.86 inches, but not significantly narrower than AP 426, Everglades, Hero XR, American Dream, or BSS 8021.

Shank length ranged from 2.7 to 7.9 and averaged 5.2 inches. Differences among entries were highly significant ( $P < .0001$ ). Shanks on CSHBP 13-672 averaged 7.9 inches, but were not significantly longer than those for BSS 8021, BSS 1075, Hero XR, or AP 426 which all had shanks averaging at least 6.2 inches. In 2015 AP 426 also produced among the longest shanks. Shanks of Elle (yellow), Kate, CAPBF 12-525, Cumberland, WSS 8072 (white), Rosie, Anthem, BSS 0761, Raquel, and Yellowstone (yellow) averaged between 5.9 and 4.3 inches and did not differ significantly. Eden (white) had the shortest shanks, 2.7 inches, but shanks of American Dream, Everglades, Nirvana, Yellowstone (yellow), and Raquel were statistically similar. In 2015 Nirvana was also among the varieties with the shortest shanks. Later varieties tended to have longer shanks; harvest date explained 22% of the variation in shank length.

Ear height from the soil to mid-ear ranged from 16.6 to 31.8 and averaged 25.2 inches. Varieties with ears at least 28.5 inches above the soil included CSHBP 13-672, BSS 1075, Yellowstone (yellow), and Elle (yellow). These did not differ significantly. Other varieties with ears at least 24 inches above the ground included: WSS 8072 (white), BSS 8021, Raquel, BSS 0761, Everglades, Kate, AP 426, Anthem, and American Dream. Rosie, Cumberland, and Hero XR had ears 22.7 to 23.6 inches above the ground. CAPBF 12-525 and Eden (white) produced ears closest to the ground (16.6-16.9 inches), but not significantly different from Nirvana at 20.2 inches. In 2015 Nirvana had ears closest to the ground. Days to harvest explained 40% of the variation in ear height, with later varieties producing ears farther off the ground. Replication also influenced ear height: in rep 1 ears were closer to the ground than in reps 2 and 3 (data not shown).

Husk cover ratings averaged 3.9 (on a 1 to 5 scale, with 5 best). Hero XR and AP 426 received the top rating of 5.0. Others with ratings averaging at least 4.0, meaning more than 1.25 inches of husk cover on all sampled ears, included: Anthem, BSS 8021, Kate, WSS 8072, and Yellowstone (yellow). Varieties with at least 3/4 inch of husk covering the tip on sampled ears (rating of at least 3) included all others except Nirvana. Nirvana received a relatively low rating for husk cover in 2015 also. Husk tightness rating ranged from 1.0 to 2.0 on a 3-point scale, and averaged 1.5. Hero XR received the top rating of 2. Varieties with consistently loose husks were rated 1 and included Raquel, Rosie, Kate, Eden (white), and WSS 8072 (white). In the 2015 trial, Nirvana was one of the varieties with the loosest husks and this year it received a rating of just 1.2, meaning husks were loose on most ears.

Tip fill rating ranged from 3.8 to 5.0 and averaged 4.4. Varieties with all sampled ears filled completely to the tip included Cumberland and BSS 8021. Other varieties with a rating of at least 4.5, indicating that most ears sampled were completely filled to the tip included: Raquel, Hero XR, Anthem, BSS 1075, and WSS 8072 (white).

Overall ear quality rating ranged from 3.3 to 7.7 and averaged 5.9 on a 9-point scale. Hero XR, AP 426, BSS 8021, and Yellowstone (yellow) received ratings of 7 or better. In 2015 and 2014 AP 426 also received among the highest ratings for overall quality. Other varieties rated above the trial average in 2017 and did not differ significantly from the top-rated were Anthem-2, Cumberland, Kate, CSHBP 13-672, BSS 0761, WSS 8072 (white) and Elle (yellow). Varieties below the trial average included Raquel, Nirvana, American Dream, Rosie, CAPBF 12-525, Everglades, BSS 1075, Anthem-1, and Eden (white). Nirvana was also rated below the trial average in 2015.

Flavor ratings ranged from 2.7 to 4.4 on a scale of 1=poor to 5=excellent and averaged 3.6. Elle (yellow) and Kate received the highest rating but did not differ significantly from Rosie, Eden (white), CSHBP13-672, CAPBF 12-525, Nirvana, Hero XR, BSS 0761, Cumberland, Anthem-1, or America Dream (Table 1). Raquel and Yellowstone (yellow) received the lowest rating but did not differ significantly from WSS 8072 (white), BSS 8021, BSS 1075, Everglades, AP 426, Anthem, American Dream, or Cumberland. Pericarp toughness ratings ranged from 1.1 to 3.3 on a 4-point scale (1=very tough; 4=not tough) and averaged 2.5 (Table 1). Differences among varieties were highly significant ( $p < .0001$ ). American Dream, Elle (yellow), and Kate were rated the least tough at 3.3 corresponding to 'somewhat tough' or 'not tough' but did not differ significantly from those with a rating of 2.8 or higher, including Anthem-2, Cumberland, Nirvana, Hero XR, Eden (white) and Rosie. Anthem, Cumberland, and Nirvana were also rated at least 3.0 in 2015, and Anthem was among the least tough in 2014 also. BSS 1075 and BSS 8021 were rated 1.2 or below, corresponding to very tough for most ears sampled. CSHBP 13-672, Everglades, AP 426, Anthem-1, CAPBF 12-525, Raquel, Yellowstone (yellow), BSS 0761 and WSS 8072 (white) were rated 2.7 to 1.9, indicating somewhat tough to tough pericarp. Varieties that were rated the best for both flavor and pericarp included Elle (yellow), Kate, Rosie, Nirvana, Hero XR, and Cumberland.

A comparison of varieties with similar maturity dates is worthwhile. Raquel and Hero XR were the two earliest bicolors, both harvested 76 DAP. Raquel was a taller plant and had longer and wider ears with shorter shanks; Hero XR had better emergence and ears were judged more attractive, with excellent husk cover and tip fill, and with better eating quality.

Nirvana was harvested 76 to 78 DAP and American Dream, Anthem, Rosie, Cumberland, and CAPBF 12-525 were harvested 78 to 80 DAP. Nirvana was notable for high emergence, low early vigor, short plants, loose husks, ears close to the ground with relatively short shanks, and a low percentage of fancy ears. American Dream had the smallest ears of this group (as well as in the trial), with short shanks, decent husk cover and good tip fill. Anthem produced ears between American Dream and Nirvana in length with longer shanks, very good husk cover and excellent tip fill, and was judged one of the more attractive varieties in this maturity group. Rosie and Cumberland had relatively low emergence and short plants with long ears; Rosie had the biggest ears of this maturity group. Both had decent husk cover, but Cumberland tended to have tighter husks and consistently excellent tip fill, overall was considered more attractive. The experimental CAPBF 12-525 had relatively short plants with ears less than 18 inches above the ground; ears were similar in size to Nirvana but with longer shanks and better husk cover. All of these varieties were among the top for flavor ratings but CAPBF 12-525 was judged tougher than all except Rosie.

Bicolors BSS 8021, Kate, and AP 426 were harvested 80 to 85 DAP and CSHBP 13-672 80 to 87 DAP. Of these, Kate was the shortest plant but with the longest and widest ears, better early vigor, and better eating quality. Ears of BSS 8021 and AP 426 were judged to have better ear quality, in part due to better husk cover and tip fill, tighter husks, and a higher percentage of fancy ears. Eating quality of BSS 8021 was not as good due to very tough pericarp. Compared to these three, CSHBP 13-672 had taller plants, longer ears higher off the ground, and with very long shanks and decent husk cover and tip fill.

BSS 0761 and BSS 1075 were harvested 85 to 87 days after seeding. BSS 0761 had lower emergence and early plant vigor, ears closer to the ground, and shorter shanks, but ears were

similar in size to BSS 1075. Husks of BSS 1075 were looser, and eating quality was lower due to tougher pericarp; overall ear quality was judged a little better for BSS 0761.

Of the two yellow varieties, Yellowstone was harvested 80 to 83 and Elle was harvested 83 to 87 DAP. Yellowstone had better emergence and early vigor and produced smaller ears; Elle had better eating quality.

Of the two white varieties Eden was almost a week earlier, had better emergence, much shorter plants with ears much closer to the ground. Ear size was similar for the two, but Eden had shorter shanks. Overall ear quality was better for WSS 8072 but eating quality was better for Eden.

Evaluation of results presented in Tables 1 and 2 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, final stand, vigor, plant height, tillering, and eating quality of supersweet sweet corn varieties in northern Indiana, 2017. Varieties listed in order of harvest within kernel color groupings.

Cultivar	Emergence %	Stand plants/A	Vigor <sup>2</sup>		Plant Ht. ft	Tillers <sup>2</sup>	Flavor <sup>3</sup>	Pericarp <sup>3</sup>
			Early	Harvest				
<i>Bicolor</i>								
Hero XR	82	17,230	<b>8.3</b>	6.3	5.1	2.3	<b>3.7</b>	<b>3.0</b>
Raquel	66	14,520	<b>6.7</b>	6.3	6.2	2.7	2.7	2.2
Nirvana	<b>93</b>	18,779	4.3	6.7	5.5	1.0	<b>3.9</b>	<b>3.0</b>
CAPBF 12-525	78	16,843	4.7	5.0	5.5	1.7	<b>4.0</b>	2.2
Anthem-2	81	17,424	<b>8.3</b>	6.0	5.7	1.7	3.4	<b>3.2</b>
Anthem-1	71	15,875	<b>7.3</b>	6.3	5.6	1.7	<b>3.6</b>	2.3
Rosie	70	15,294	<b>6.7</b>	6.3	5.5	1.0	<b>4.3</b>	<b>2.8</b>
American Dream	<b>83</b>	16,843	5.3	6.0	5.7	1.3	<b>3.6</b>	<b>3.3</b>
Cumberland	70	15,101	6.3	5.3	5.5	2.0	<b>3.6</b>	<b>3.2</b>
Everglades	<b>100</b>	19,747	<b>8.0</b>	7.3	6.0	1.0	3.2	2.4
Kate	80	16,843	6.3	6.3	5.7	1.0	<b>4.4</b>	<b>3.3</b>
BSS 8021	74	15,101	4.7	7.0	6.1	2.0	3.1	1.2
AP 426	<b>85</b>	19,166	4.3	6.7	<b>6.3</b>	3.0	3.3	2.3
BSS 1075	<b>85</b>	18,779	4.7	7.3	<b>6.6</b>	1.3	3.1	1.1
CSHBP 13-672	69	15,488	6.3	7.3	<b>6.7</b>	3.0	<b>4.0</b>	2.7
BSS 0761	60	16,069	2.7	7.0	<b>6.6</b>	3.0	<b>3.7</b>	2.1
<i>Yellow</i>								
Yellowstone	<b>92</b>	19,360	<b>6.7</b>	8.0	<b>6.3</b>	2.3	2.7	2.1
Elle	75	16,650	4.7	7.3	6.0	2.3	<b>4.4</b>	<b>3.3</b>
<i>White</i>								
Eden	<b>94</b>	20,328	4.3	6.0	5.5	1.3	<b>4.2</b>	2.8
WSS 8072	72	16,262	6.3	7.3	6.2	3.0	3.0	1.9
<i>Grand Mean</i>	79	17,085	5.8	6.6	5.9	1.9	3.6	2.5
<i>LSD .05</i> <sup>4</sup>	18	NS	1.9	–	0.48	–	1.0	0.6
<i>R</i> <sup>2</sup> vs <i>DAP</i> <sup>5</sup>	–	–	NS	0.33	0.55	NS	–	–

<sup>1</sup>Means in bold do not differ significantly from the highest in that column. Cultivars with means in italics were not included in AOV for that response. Emergence is reported as percent of desired final stand before thinning. Stand was determined after thinning.

<sup>2</sup>Tillers: 5=most plants with tall tillers; 3=most plants have tillers, but not tall; 1=no or few tillers.

Vigor: 9=excellent; 5=average; 1=poor.

<sup>3</sup>Flavor: 5=excellent; 4=very good; 3=good; 2=medium; 1=poor. Pericarp: 4=not tough; 3=somewhat tough; 2=tough; 1=very tough.

<sup>4</sup>Means differing by more than this amount are significantly different at  $P \leq .05$  based on Fisher's Protected LSD. – AOV not performed.

<sup>5</sup>R-squared value for linear regression of response vs. mean of actual days to harvest, if regression significant at  $P < .05$ . NS=not significant. – Regression not performed



**Table 2.** Yield, ear size, ear height, and quality of supersweet sweet corn varieties in northern Indiana, 2017. Varieties listed in order of harvest within kernel color.

Cultivar	Seed Source <sup>1</sup>	Days to Harvest <sup>2</sup>		Yield of Marketable Ears		Ave Ear Weight lb.	Ear Length in.	Ear Dia. in.	Shank Length in.	Ear Height in.	Husk Cover <sup>3</sup>	Husk Tightness <sup>3</sup>	Tip Fill <sup>3</sup>	Overall <sup>3</sup>
		Pred.	Actual	doz/A	ton/A									
<i>Bicolor</i>														
Hero XR	ST	71	76	<b>1,404</b>	7.8	0.92	7.22	1.90	<b>6.57</b>	22.7	5.0	2.0	4.9	<b>7.7</b>
Raquel	HM	72	76	1,145	7.5	1.10	8.58	<b>2.14</b>	4.49	26.8	3.4	1.0	4.7	5.3
Nirvana	CR	74	76-78	<b>1,533</b>	7.1	0.77	7.75	<i>1.96</i>	3.68	20.2	2.9	1.2	4.3	3.7
CAPBF 12-525	CR	72	78-80	1,323	7.1	0.90	7.71	2.00	5.47	16.6	3.7	1.3	4.1	5.3
Anthem-2	ST	73	78-80	<b>1,420</b>	8.0	0.94	7.50	2.01	4.81	24.6	4.0	1.8	4.8	<b>6.3</b>
Anthem-1	ST	73	78-80	1,242	6.6	0.91	7.61	2.06	4.96	24.6	4.1	1.7	4.8	5.0
Rosie	HM	74	78-80	1,194	8.0	1.11	8.06	<b>2.21</b>	5.14	23.6	3.6	1.0	3.8	5.3
American Dream	ST	77	78-80	1,258	5.4	0.74	6.75	1.89	2.85	24.6	3.7	1.8	4.2	4.7
Cumberland	HM	77	78-80	1,210	7.3	1.01	7.94	2.04	5.39	23.3	3.6	1.6	5.0	<b>6.7</b>
Everglades	CR	76	80-83	<b>1,629</b>	8.3	0.85	7.89	1.94	3.32	26.3	3.7	1.7	4.1	5.3
Kate	HM	77	80-85	1,339	8.4	1.05	7.79	2.10	5.74	25.4	4.1	1.0	3.9	<b>6.0</b>
BSS 8021	SYN	78	80-85	1,162	6.4	0.92	7.44	1.88	<b>7.26</b>	27.8	4.7	1.9	5.0	<b>7.0</b>
AP 426	CR	78	80-85	<b>1,533</b>	8.7	0.95	7.64	1.94	<b>6.28</b>	25.4	5.0	1.7	4.2	<b>7.3</b>
BSS 1075	SYN	77	85-87	<b>1,468</b>	<b>9.0</b>	1.03	7.82	2.00	<b>6.86</b>	<b>30.3</b>	3.7	1.1	4.7	5.3
CSHBP 13-672	CR	80	80-87	1,210	<b>10.3</b>	<b>1.42</b>	<b>9.21</b>	2.10	<b>7.90</b>	<b>31.8</b>	3.9	1.6	3.9	<b>6.7</b>
BSS 0761	SYN	80	85-87	1,242	7.7	1.03	7.75	2.03	4.94	26.4	3.7	1.7	4.2	<b>6.3</b>
<i>Yellow</i>														
Yellowstone	CR	76	80-83	<b>1,500</b>	7.9	0.88	7.54	1.86	4.33	<b>29.3</b>	4.3	1.9	4.3	<b>7.0</b>
Elle	HM	78	83-87	1,307	8.3	1.06	8.13	2.03	5.86	<b>28.6</b>	3.8	1.2	4.0	<b>6.7</b>
<i>White</i>														
Eden	CR	75	76-80	<b>1,629</b>	7.1	0.72	7.56	1.97	2.71	16.9	3.1	1.0	3.9	3.3
WSS 8072	SYN	78	83	1,210	6.6	0.91	7.63	1.97	5.32	28.0	4.0	1.0	4.9	<b>6.3</b>
<i>Grand Mean</i>			<i>81</i>	<i>1,348</i>	<i>7.7</i>	<i>0.96</i>	<i>7.78</i>	<i>2.00</i>	<i>5.19</i>	<i>25.2</i>	<i>3.9</i>	<i>1.5</i>	<i>4.4</i>	<i>5.9</i>
<i>LSD .05<sup>4</sup></i>				<i>279</i>	<i>1.4</i>	<i>0.12</i>	<i>0.31</i>	<i>0.11</i>	<i>1.91</i>	<i>3.76</i>	–	–	–	<i>1.7</i>
<i>R<sup>2</sup> vs DAP<sup>5</sup></i>				<i>NS</i>	<i>0.22</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>0.22</i>	<i>0.40</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>

<sup>1</sup>Seed Source: CR=Crookham; HM=Harris Moran; ST=Stokes; SYN=Syngenta.<sup>2</sup>Days from planting to harvest. Predicted number is from seed supplier. Actual values are range for 3 replications.

<sup>3</sup>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.

<sup>4</sup>Means differing by more than this amount are significantly different at  $P \leq .05$  based on Fisher's Protected LSD. Means in bold font do not differ significantly from the highest in that column. Cultivars with means in italics were not included in AOV for that response. NS=not significant. – =AOV not performed.

<sup>5</sup>R-squared value for linear regression of response vs. mean of actual days to harvest, if regression significant at  $P < .05$ . – =Regression not performed.