Sugar-enhanced and Synergistic Sweet Corn Cultivar Evaluation for Northern Indiana, 2015

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Indiana sweet corn acreage harvested for fresh market averaged 5,133 acres annually from 2012-2014, with a yield of 68 hundredweight per acre (162 crates or 3.4 tons per acre) and an annual value of $12.3 million (USDA NASS, 2015). […]

This paper reports on seven bicolor and two yellow sugar-enhanced or synergistic 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 2014 soil test showed 1.6% organic matter, pH 6.3, and 94 ppm phosphorus (P), 92 ppm potassium (K), 125 ppm magnesium (Mg), and 600 ppm calcium (Ca). Potassium was applied in fall 2014 as 275 lb./A of 0-0-60.

[…]

Results and Discussion

Temperatures were at or just below normal the first 10 days after planting, and averaged 0.3°F, 3.5°F, and 0.3°F below normal in June, July, and the first half of August, respectively. From July 6, when early varieties were just past 50% silking, to August 9, when most varieties had been harvested, growing degree day (GDD, base 50°F) accumulation was 40 GDD below normal.

[…]

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. The relatively small number of varieties in the trial reflects the growing interest in “supersweet” corn types as opposed to those in this trial with sugar-enhanced and synergistic genetics. A separate trial evaluating supersweet varieties was conducted at the same location, and results are reported in a separate article.

Acknowledgments

J. Leuck and Pinney-Purdue Agricultural Center staff managed field operations. […] The seed companies listed in Table 2 provided financial support and/or seed*.*

Literature Cited

Midwestern Regional Climate Center. 2015. cli-MATE: MRCC Application Tools Environment. Daily Data Between Two Dates for WANATAH 2 WNW (IN) USC00129222. mrcc.isws.illinois.edu/CLIMATE/. Accessed 10/20/2015.

**Table 1.** Emergence, final stand, plant characteristics, and eating quality of sugar-enhanced and synergistic sweet corn varieties in northern Indiana, 2015. Varieties listed in order of harvest within kernel color.1

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Cultivar** | **Emergence *%*** | **Stand** *plants/A* | **Plant Ht.** *ft* | **Tillers2** | **Vigor2** | | **Flavor3** |
| ***Early*** | ***Harvest*** |
| *Bicolor* |  |  |  |  |  |  |  |
| Sweetness | **86.7** | **17,618** | 4.9 | 1.3 | **6.7** | 5.3 | 3.8±0.2 |
| Latte | **70.5** | **14,326** | 4.9 | **3.3** | **6.3** | 6.7 | 2.8±0.4 |
| Alto | **80.0** | **15,875** | 5.3 | 1.3 | **5.7** | *6.0* | 3.5±0.3 |
| Temptation | 19.0 | 5,421 | **6.1** | 2.3 | 4.0 | 7.3 | 4.2±0.2 |
| Ambrosia | 49.5 | 10,842 | **6.3** | 2.7 | 4.3 | *8.0* | 3.5±0.3 |
| My Fair Lady | 34.3 | 7,163 | **6.4** | *5.0* | *2.0* | 7.3 | 2.8±0.2 |
| Who Gets Kissed | 39.0 | 8,518 | **6.1** | **4.7** | 2.3 | 7.3 | 2.2±0.2 |
| BC 0528 | **87.6** | **18,198** | **6.4** | **4.3** | **5.3** | 7.7 | 4.0±0.6 |
| *Yellow* |  |  |  |  |  |  |  |
| Aspire | **71.4** | **14,133** | **6.2** | 2.0 | **6.0** | 7.0 | 4.0±0.0 |
| Bling | 14.3 | 3,485 | **6.5** | *5.0* | *1.0* | 8.3 | 3.0±0.3 |
| *Grand Mean* | *55.2* | *11,558* | *5.9* | *3.2* | *4.4* | *7.1* | *3.4* |
| *LSD .054* | *22.1* | *4,432* | *0.6* | *1.9* | *2.0* | *NS* | *—* |
| *R2 vs DAP5* | *—* | *—* | *0.84* | *0.36* | *0.35* | *0.60* | *—* |

1Means 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.

2Tillers: 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. Mean ± s.e.m.

3 Flavor: 5=excellent; 4=very good; 3=good; 2=medium; 1=poor.

4Means differing by more than this amount are significantly different at *P*≤.05 based on Fisher’s Protected LSD. NS=not significant. – AOV not performed.

5R-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.