

# Sugar-Enhanced (se) Bicolor Sweet Corn Cultivar Trial

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Thirty-two sugar-enhanced (se) cultivars were planted on April 26, 2000, to evaluate for Midwest production potential. Growing conditions during the season included periods of cloudy rainy days and temperatures on the cool side that weren't ideal for sweet corn. At harvest the number of marketable ears and ear size were generally less than desired and several cultivars had trouble with tip fill. However, it was a good trialing year as we saw significant differences between hybrids in their performance. Plots were handpicked in an once-over harvest when the majority of ears were filled-out and judged to be at optimum maturity for marketing. Harvest and trial data are presented in Tables 2 and 3; observations and comments on cultivars are presented in Table 1. Cultivars in the tables are arranged by maturity - early to late. **Best in the trial: Sweet Cheeks, Trinity, Sweet Chorus, Temptation, HMX 6357, Wizard, Buckeye, Precious Gem, Serendipity, BC 801, Sunset.**

## Materials and Methods

- Planting: April 26, 2000.
- Plot Design: RCB, 4 reps. Plot = one row 22' long, plots thinned to 30 plants 9" apart after emergence. Rows 42" apart. Plant population/acre = 17,000.
- Soil Type: Alluvial coarse sand, O.M. content 1.5% or less, CEC 2.5 - 5 meq/100g.
- Irrigation: Overhead sprinklers, water applied according to tensiometer readings.
- Fertility: Split application of nutrients - preplant incorporated and two sidedressings. Fertilizer rates determined by soil test and growing conditions.
- Pesticides: Dual 8E, Atrazine 4L herbicide; Capture, Pounce insecticide, Bravo fungicide.

Table 1. Cultivar observations and comments.

| Cultivar         | Comments                                                                                |
|------------------|-----------------------------------------------------------------------------------------|
| GH 7006          | earliest maturing in trial, yellow ears too small and didn't fill completely            |
| Seneca Arrowhead | vigorous early cv., ear appearance and tip fill marginal this year                      |
| Seneca Spring    | looked promising, tip fill could be better, decent eating quality for early             |
| Sweet Cheeks     | early yellow had slender ears with good tip fill and eating quality                     |
| Native Gem       | early plant growth slow and weak in previous trials, okay in 2000                       |
| Sweet Riser      | performed well except blunt yellow ears were too short                                  |
| Punctuality      | excellent seedling vigor, good yield but ears had noticeably poor tip fill              |
| Trinity          | possibly best eating of early cvs., yield and ear size okay, tip fill marginal          |
| Ecstatse II      | small flag leaves, smallish ears                                                        |
| Sweet Chorus     | strong plant and good yield, better eating quality would make it a real winner          |
| Bon Appetit      | excellent eating quality but ears had rough irregular appearance                        |
| Temptation       | nice looking thick blunt ears, consistently good in previous trials                     |
| Double Choice    | looked great in 1999, plant vigor & yield a little disappointing in 2000                |
| Friendship       | short fat ears, only fair tip fill                                                      |
| Double Gem       | good eating quality but poor tip fill in 2000 (looked okay in 1999 and 1998)            |
| Mystique         | early plant growth weak, ears very sweet and tender but didn't fill to tip              |
| HMX 6357         | first year in trial - looked promising                                                  |
| Wizard           | good performance and quality in 1999 and 2000, picking requires a good pull             |
| Parfait          | excellent eating, tendency to have poor tip fill, nice flag leaves but loose husk       |
| Buckeye          | seedling growth slow but produced good yield and thick handsome ears                    |
| EX 8410297       | really nice looking ears - with and without husk                                        |
| BC 4315          | looked good except for noticeably poor tip fill                                         |
| Seneca Nation    | ears small for maturity, kernels were crunchy sweet & sometimes a little tough          |
| EX 8410317       | ears pulled a little hard from stalk, kernels tender with creamy 'com' flavor           |
| EX 8415097       | short ears for maturity                                                                 |
| Precious Gem     | consistently good performer, nice looking large ears, good eating                       |
| Serendipity      | good yield of attractive ears, stress can cause lack of tip fill, superb eating quality |
| BC 801           | good ear appearance & quality although yield (dozen/acre) not high                      |
| Sunset           | strong yield of nice looking ears in 1999 and 2000                                      |
| EX 8414777       | poor seedling vigor, low yields, small ears - didn't like our growing conditions        |
| EX 8413857       | good performance in trial, ears pulled a little hard, creamy com taste                  |
| Sweet Scarlet    | latest maturing cultivar in trial, unusual crimson and white colored kernels            |

Table 2. Sugar-enhanced (se) sweet corn plant characteristics.

| Cultivar             | Seed Source | DTH | GDD  | Growth Vigor | Ear Ht. inch | Plant Ht. inch |
|----------------------|-------------|-----|------|--------------|--------------|----------------|
| GH 7006*             | NV          | 75  | 1351 | G-E          | 14           | 53             |
| Seneca Arrowhead     | RU          | 77  | 1406 | G            | 15           | 57             |
| Seneca Spring        | RU          | 77  | 1406 | G            | 17           | 59             |
| Sweet Cheeks *       | HM          | 77  | 1406 | G            | 18           | 63             |
| Native Gem           | ME          | 77  | 1406 | G            | 16           | 54             |
| Sweet Riser*         | HM          | 78  | 1436 | G            | 19           | 64             |
| Punctuality          | ME          | 78  | 1436 | E            | 16           | 54             |
| Trinity              | SW          | 78  | 1436 | G            | 15           | 57             |
| Ecstatse II          | SW          | 78  | 1436 | G            | 15           | 55             |
| Sweet Chorus         | HM          | 78  | 1436 | G-E          | 18           | 61             |
| Bon Appetit          | ME          | 79  | 1458 | G            | 20           | 67             |
| Temptation           | AS          | 79  | 1458 | G-E          | 22           | 66             |
| Double Choice        | HM          | 79  | 1458 | G-E          | 20           | 69             |
| Friendship           | ME          | 79  | 1458 | F-G          | 20           | 60             |
| Double Gem           | ME          | 80  | 1458 | F-G          | 20           | 64             |
| Mystique             | SW          | 81  | 1510 | F            | 21           | 66             |
| HMX 6357             | HM          | 81  | 1510 | G            | 19           | 65             |
| Wizard               | AS          | 81  | 1510 | G-E          | 23           | 74             |
| Parfait              | ME          | 82  | 1534 | F-G          | 26           | 72             |
| Buckeye              | ME          | 82  | 1534 | F-G          | 26           | 68             |
| EX 8410297           | AS          | 82  | 1534 | G-E          | 22           | 70             |
| BC 4315              | NV          | 84  | 1575 | G            | 19           | 63             |
| Seneca Nation        | RU          | 84  | 1575 | F-G          | 20           | 68             |
| EX 8410317           | AS          | 84  | 1575 | G-E          | 25           | 76             |
| EX 8415097           | AS          | 85  | 1592 | F-G          | 21           | 70             |
| Precious Gem         | ME          | 86  | 1610 | G            | 23           | 73             |
| Serendipity          | NV          | 86  | 1610 | G            | 24           | 68             |
| BC 801               | NV          | 86  | 1610 | E            | 27           | 71             |
| Sunset               | AS          | 86  | 1610 | G-E          | 31           | 88             |
| EX 8414777           | AS          | 86  | 1610 | P            | 24           | 75             |
| EX 8413857           | AS          | 86  | 1610 | G            | 28           | 76             |
| Sweet Scarlet**      | AS          | 88  | 1642 | G            | 29           | 81             |
| <i>Trial Average</i> |             |     |      |              | 21           | 66             |
| <i>LSD 5%</i>        |             |     |      |              | 5.4          | 5.5            |

\* yellow, \*\* red and white, all other cultivars bicolor (yellow and white)

DTH: Days to Harvest, planted April 26. GDD: Growing Degree Day, base 50.

Early Growth Vigor: Ex = excellent, G = good, F = fair, P = poor, determined by plant growth measurements 25 days after planting.

Table 3. Sugar-enhanced (se) sweet corn marketable yields and ear characteristics.

| Cultivar             | Dozen Ears/Acre | Yield CWT/Acre | Avg Wt 10 Ears Husked | Ear Length inches | Ear Diameter inches | Husk Cover | Ear Tip Fill |
|----------------------|-----------------|----------------|-----------------------|-------------------|---------------------|------------|--------------|
| GH 7006*             | 769             | 47.5           | 3.7                   | 6.6               | 1.74                | G          | F            |
| Seneca Arrowhead     | 785             | 47.4           | 3.5                   | 7.1               | 1.71                | G          | F            |
| Seneca Spring        | 691             | 40.1           | 3.6                   | 7.3               | 1.73                | G          | F            |
| Sweet Cheeks*        | 911             | 52.8           | 3.4                   | 7.1               | 1.59                | G          | G            |
| Native Gem           | 816             | 39.4           | 4.0                   | 7.2               | 1.73                | G          | F-G          |
| Sweet Riser*         | 848             | 58.0           | 3.9                   | 6.7               | 1.77                | G          | G            |
| Punctuality          | 989             | 70.8           | 4.2                   | 7.2               | 1.81                | G          | F-P          |
| Trinity              | 801             | 51.1           | 3.7                   | 6.9               | 1.75                | G          | F            |
| Ecstatse II          | 707             | 44.0           | 3.6                   | 6.4               | 1.74                | G          | G-F          |
| Sweet Chorus         | 1130            | 82.8           | 4.2                   | 7.2               | 1.77                | G          | F            |
| Bon Appetit          | 879             | 71.9           | 4.5                   | 6.7               | 1.90                | G          | F-G          |
| Temptation           | 958             | 69.1           | 4.2                   | 6.8               | 1.83                | G          | G-F          |
| Double Choice        | 754             | 53.6           | 4.0                   | 7.5               | 1.72                | G-F        | G            |
| Friendship           | 942             | 75.1           | 4.5                   | 6.9               | 1.88                | G          | F            |
| Double Gem           | 832             | 60.9           | 4.2                   | 6.9               | 1.84                | G          | F-P          |
| Mystique             | 722             | 53.4           | 4.1                   | 7.7               | 1.73                | G          | F            |
| HMX 6357             | 982             | 64.7           | 3.9                   | 7.3               | 1.71                | G          | G            |
| Wizard               | 848             | 59.4           | 4.2                   | 7.4               | 1.71                | G          | G            |
| Parfait              | 994             | 70.6           | 4.1                   | 8.0               | 1.69                | G-F        | F-P          |
| Buckeye              | 958             | 69.8           | 4.4                   | 7.5               | 1.81                | G          | G            |
| EX 8410297           | 1052            | 91.3           | 4.8                   | 7.9               | 1.77                | G          | G            |
| BC 4315              | 1044            | 57.4           | 4.4                   | 7.8               | 1.75                | G          | P            |
| Seneca Nation        | 926             | 66.8           | 3.6                   | 6.8               | 1.70                | G          | G-F          |
| EX 8410317           | 1079            | 87.2           | 4.3                   | 7.4               | 1.76                | G          | G            |
| EX 8415097           | 1146            | 87.4           | 4.5                   | 7.0               | 1.81                | G          | G-F          |
| Precious Gem         | 1099            | 90.6           | 4.9                   | 7.7               | 1.86                | G          | G-F          |
| Serendipity          | 1124            | 90.7           | 4.6                   | 7.9               | 1.74                | G          | F            |
| BC 801               | 864             | 79.6           | 5.0                   | 8.1               | 1.79                | G          | G-F          |
| Sunset               | 1178            | 94.0           | 4.9                   | 8.1               | 1.75                | G          | G            |
| EX 8414777           | 502             | 31.9           | 3.9                   | 6.8               | 1.75                | G          | G            |
| EX 8413857           | 1162            | 93.2           | 4.8                   | 8.0               | 1.76                | G          | G-F          |
| Sweet Scarlet**      | 816             | 62.1           | 4.4                   | 7.6               | 1.68                | G          | G            |
| <i>Trial Average</i> | <i>916.0</i>    | <i>67.0</i>    | <i>4.2</i>            | <i>7.3</i>        | <i>1.76</i>         |            |              |
| <i>LSD 5%</i>        | <i>212</i>      | <i>16.1</i>    | <i>.5</i>             | <i>.4</i>         | <i>.07</i>          |            |              |

\* yellow, \*\* red and white, all other cultivars bicolor (yellow and white)

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

Ear Tip Fill: G = good, less than 1/2" of unfilled kernels at ear tip; F = fair, between 1/2 and 1" of unfilled ear tip; P = poor, more than 1" of unfilled ear tip.