



OKLAHOMA PANHANDLE CORN PERFORMANCE TRIALS, 2005



PRODUCTION TECHNOLOGY CROPS

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TRIAL OBJECTIVES AND PROCEDURES

Each year the Oklahoma Cooperative Extension Service conducts corn performance trials in the Oklahoma panhandle. These trials provide producers, extension educators, industry representatives, and researchers with information on corn hybrids marketed in Oklahoma. Company or brand name, entry designation, plant characteristics, and maturity information, was provided by the companies and was not validated by OSU; therefore, we strongly recommend consulting company representatives for more detailed information regarding these traits and disease resistance ratings (Table 2). Company participation was voluntary, so some hybrids marketed in Oklahoma were not included in the test.

Irrigated test plots were established at the Oklahoma Panhandle Research and Extension Center (OPREC), Goodwell and the Joe Webb farm, near Guymon. Fertility levels, herbicide use, and soil series (when available) are listed with data. Trials were two 25-foot rows seeded at the target population of 32,000 plants/ac. Plots were trimmed to 20 feet prior to being harvested for grain data. Ensilage trial was seeded the same as grain trial with 10 feet of one row harvested for yield. The experimental design was a randomized complete block with four replications. Grain yields are reported consistent with U.S. No. 1 grade corn i.e. 56 lbs/bu and adjusted to moisture content of 15.5%. Corn ensilage was harvested at the early dent stage with average moisture content of 67.5 % and production is reported as tons/ac adjusted to 65% moisture.

GROWING CONDITIONS

The planting period was characterized by excellent soil moisture from rainfall received throughout the winter and spring. No pre-irrigation was required to obtain desired subsoil moisture levels. Soil temperature of 61° F on April 1 at the two-inch depth was consistent with observations in previous years, although soil temperatures cooled to 49° F on May 1. The cooler soil temperatures in late April and early May delayed emergence of corn planted the last half of April. During the growing season rainfall was below the long-term average (Table 1), therefore more irrigation was required than in 2004. Although OPREC didn't have hail for the third year in a row, the panhandle region had several yield reducing hailstorms from mid May until early July. Pollination period (July 1 through July 15) temperatures for 2005 were similar to 2002 - 2004, which were near the long-term average (Fig. 1). High moisture corn was cut without delays from weather in late August and early September, and there were no major delays for dry corn harvested from mid September to mid October.

RESULTS

Grain yield, test weight, harvest moisture, and plant populations for OPREC and Webb trials are presented (Tables 3-6). Ensilage yields are reported in Table 6. Crude protein, ADF, and TDN, however are not reported, because no differences existed among hybrids. Averages were 8.6, 31.0, and 64.7 %, for Crude Protein, ADF, and TDN respectively. Similarly, there were no differences among hybrids in energy values for, maintenance, lactation, and gain values and averages were 0.66, 0.67, and 0.40 respectively.

Small differences in yield or other parameters should not be overemphasized. Least Significant Differences (L.S.D.) are shown at the bottom of each table. Unless two entries differ by at least the L.S.D. shown, little confidence can be placed in one being superior to another. The coefficient of variation (C.V.) is provided as an estimate of the precision of the data with respect to the mean. To provide some indication of yield stability, 2-year means are provided in tables 5, 6, and 7. Producers interested in comparing hybrids for consistency of yield should consult these tables.

The following people have contributed to this report by assisting in crop production, data collection, and publication; Donna George, Lawrence Bohl, Matt LaMar, Jason Weirich, Justin Stauffer, Tony Mills, and Craig Chesnut. Their efforts are greatly appreciated.

Figure 1. Daily OPREC high temperatures for July 1 through July 15, 2002 through 2005, and long-term mean.

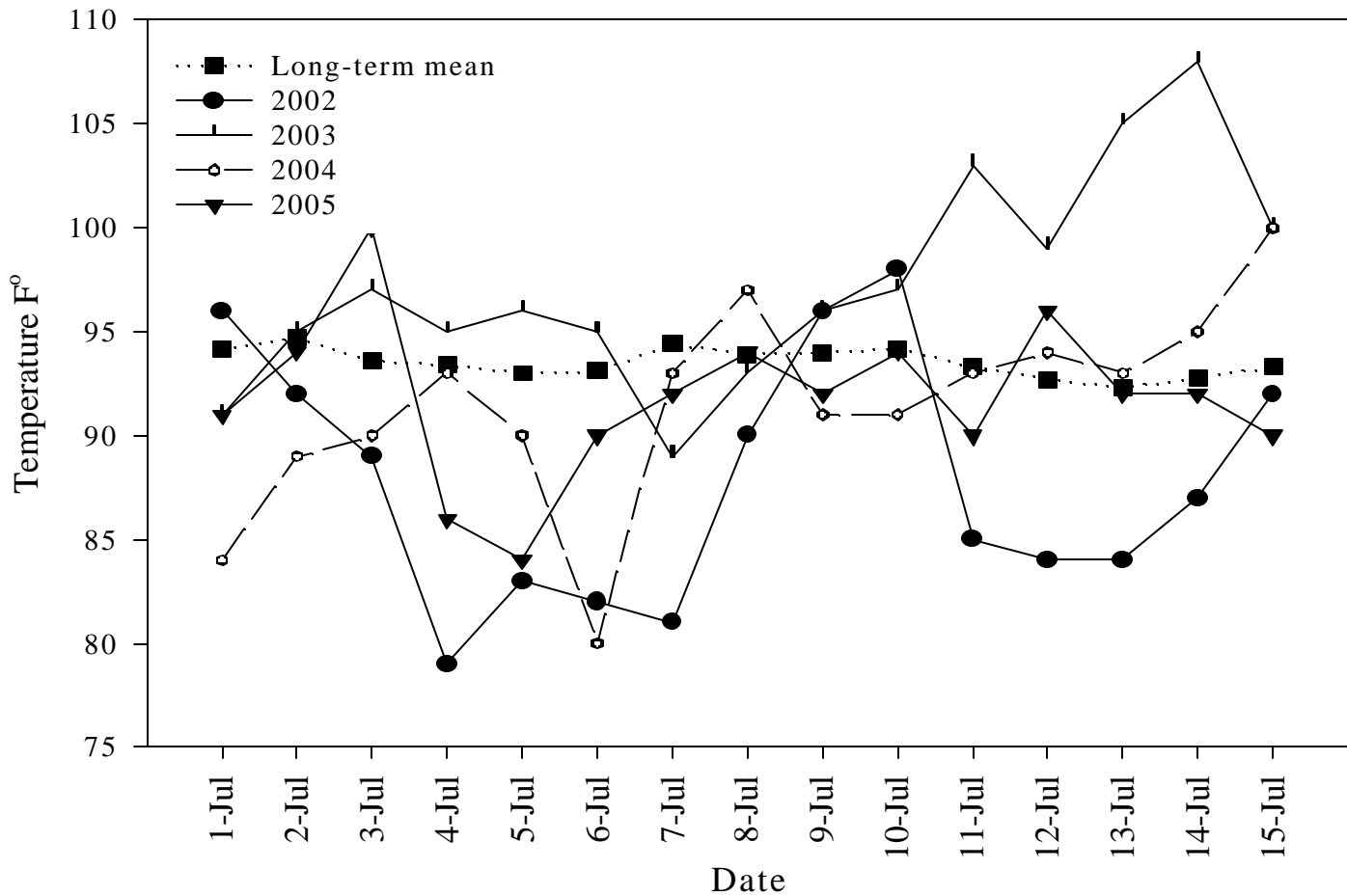


Table 1. Rainfall and irrigation for irrigated corn performance trial locations, 2005.

| Location | April | May | June | July | Aug | Total |
|----------------|-------|------|------|------|------|-------|
| Long-term mean | 1.33 | 3.25 | 2.86 | 2.58 | 2.28 | 12.30 |
| Texas county | 0.93 | 2.85 | 2.01 | 1.40 | 3.21 | 10.04 |
| Irrigation | | | | | | |
| OPREC | 0.0 | 2.0 | 4.0 | 5.0 | 3.0 | 14.0 |
| Joe Webb | 0.0 | 2.0 | 5.0 | 5.0 | 5.0 | 17.0 |

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Table 2. Characteristics of Corn Hybrids in Panhandle Corn Performance Trials, 2005.

| Company | Hybrid | Plant Characteristics | | | | Maturity Days |
|---|--------------------|-----------------------|----|----|-----|------------------|
| | | SV | SS | SG | EP | |
| Stauffer Seeds | 2721 | 3 | 2 | 3 | M | |
| Garst Seed Company | 8292YGI | 2 | 3 | 2 | H | 118 |
| Garst Seed Company | 8377YGI/RR | 2 | 4 | 3 | M | 115 |
| Garst Seed Company | 8270 RR | 3 | 2 | 2 | H | 118 |
| Garst Seed Company | 8275 YG1 | 2 | 3 | 3 | M | 116 |
| Garst Seed Company | 8383YGI | 2 | 3 | 3 | M-H | 114 |
| Garst Seed Company | 8380 IT | 2 | 2 | 3 | M-H | 116 |
| Golden Harvest Seeds | H-9250 Bt/RR | 3 | 3 | 3 | M | 114 |
| Golden Harvest Seeds | H-9485 Bt | 3 | 5 | 4 | M-H | 115 |
| Laser Brand (Distributed by Golden Harvest) | L-9H50 Bt/RR | 3 | 3 | 3 | M | 114 |
| Frontier Hybrids, Inc. | PB 654 YGCB | 1 | 1 | 2 | H | 117 |
| Frontier Hybrids, Inc. | F-3175 | 1 | 1 | 2 | M | 116 |
| Frontier Hybrids, Inc. | F-3250 | 1 | 1 | 2 | M | 117 |
| NC+ Hybrids | 5433 RB | 2 | 2 | 2 | M | 114 |
| NC+ Hybrids | 7401 | NA | 2 | 2 | H | 118 |
| Frontier Hybrids, Inc. | PB 661 RR | 1 | 1 | 1 | M | 118 |
| Dekalb Genetics | DKC 60-19 RR2/YGCB | 3 | 3 | 5 | M-L | 110 |
| Dekalb Genetics | DKC 63-62 RR2 | 3 | 4 | 5 | M-H | 113 |
| Dekalb Genetics | DKC 66-21 YGCB | 2 | 5 | 3 | M | 116 |
| Dekalb Genetics | DKC 61-72 RR2 | 3 | 3 | 3 | M-L | 111 |
| Asgrow Seed | RX752YG | 3 | 4 | 5 | M | 112 |
| Triumph Seed Co., Inc | 1866Bt | 2 | 2 | 2 | H | 116 |
| Triumph Seed Co., Inc | 1536 CbRR | 2 | 2 | 2 | M | 114 |
| Triumph Seed Co., Inc | 1416 Bt | 2 | 2 | 2 | M | 114 |
| NTI-SPRRS | WWFH01 | 3 | 2 | NA | M | 90 |
| NTI-SPRRS | WWFH02 | 3 | 2 | NA | M | 90 |
| NTI-SPRRS | WWFH04 | 3 | 2 | NA | M | 90 |
| NTI-SPRRS | WWFH05 | 3 | 2 | NA | M | 90 |
| NTI-SPRRS | WWFH06 | 3 | 2 | NA | M | 90 |
| NTI-SPRRS | WWFH07 | 3 | 2 | NA | M | 90 |
| NTI-SPRRS | WWFH10 | 3 | 2 | NA | M | 90 |
| NTI-SPRRS | WWFH11 | 3 | 2 | NA | M | 90 |
| NTI-SPRRS | WWFH15 | 3 | 2 | NA | M | 90 |

* Plant Characteristics: SV - Seedling Vigor; SS - stalk strength; SG - stay green; EP - ear placement (Low, Medium, High)
 Rating scale for above characteristics except ear placement 1 = excellent - 9 = poor

Table 3. Grain Yield and Harvest Parameters from OPREC location for hybrids more than 110 days to maturity Oklahoma Corn Performance Trials, 2005.

| Company Brand Name | Entry Designation | Grain Yield bu/ac | | Test Weight lb/bu | | Harvest Moisture | Plant Population plants/ac |
|---|--------------------|-------------------|----------|-------------------|----------|------------------|----------------------------|
| | | 2005 | Two year | 2005 | Two year | | |
| Garst Seed Company | 8377YGI/RR | 184.7 | 206.0 | 55.8 | 55.4 | 17.8 | 28,800 |
| Garst Seed Company | 8292YGI | 192.5 | 203.8 | 55.7 | 55.5 | 21.1 | 29,000 |
| Triumph Seed Co., Inc | 1416 Bt | 193.8 | 202.0 | 56.0 | 55.5 | 16.2 | 28,300 |
| Garst Seed Company | 8270 RR | 184.6 | 200.1 | 56.3 | 55.6 | 19.6 | 28,800 |
| Triumph Seed Co., Inc | 1866Bt | 170.9 | 196.0 | 57.2 | 57.2 | 18.3 | 26,400 |
| Frontier Hybrids, Inc. | F-3175 | 164.6 | 194.1 | 56.8 | 56.3 | 20.5 | 27,200 |
| Garst Seed Company | 8383YGI | 174.5 | 192.3 | 56.0 | 56.4 | 16.9 | 26,400 |
| Asgrow Seed | RX752YG | 178.5 | 189.7 | 56.6 | 56.2 | 16.7 | 29,100 |
| Frontier Hybrids, Inc. | F-3250 | 172.8 | 186.7 | 56.8 | 57.0 | 20.0 | 28,500 |
| Dekalb Genetics | DKC 60-19 RR2/YGCB | 172.9 | 182.8 | 57.0 | 56.8 | 16.1 | 27,800 |
| Garst Seed Company | 8275 YG1 | 191.8 | ---- | 55.7 | ---- | 18.0 | 26,700 |
| Triumph Seed Co., Inc | 1536 CbRR | 190.7 | ---- | 55.3 | ---- | 18.1 | 27,700 |
| Laser Brand (Distributed by Golden Harvest) | L-9H50 Bt/RR | 188.7 | ---- | 55.8 | ---- | 17.9 | 28,100 |
| Dekalb Genetics | DKC 66-21 YGCB | 187.2 | ---- | 55.8 | ---- | 18.4 | 29,200 |
| Golden Harvest Seeds | H-9250 Bt/RR | 186.5 | ---- | 56.1 | ---- | 17.1 | 28,100 |
| Stauffer Seeds | 2721 | 185.0 | ---- | 54.4 | ---- | 18.2 | 28,200 |
| NC+ Hybrids | 5433 RB | 180.0 | ---- | 55.9 | ---- | 17.7 | 24,400 |
| Golden Harvest Seeds | H-9485 Bt | 179.8 | ---- | 56.7 | ---- | 16.8 | 27,300 |
| Garst Seed Company | 8380 IT | 177.0 | ---- | 54.9 | ---- | 18.2 | 26,100 |
| Dekalb Genetics | DKC 63-62 RR2 | 167.1 | ---- | 57.7 | ---- | 14.9 | 26,200 |
| Dekalb Genetics | DKC 61-72 RR2 | 162.6 | ---- | 54.2 | ---- | 15.4 | 27,800 |
| Frontier Hybrids, Inc. | PB 654 YGCB | 156.6 | ---- | 57.4 | ---- | 17.9 | 28,000 |
| NC+ Hybrids | 7401 | 153.3 | ---- | 53.1 | ---- | 21.6 | 27,200 |
| Frontier Hybrids, Inc. | PB 661 RR | 136.5 | ---- | 56.4 | ---- | 18.6 | 26,400 |
| | Mean | 176.5 | 195.4 | 56.0 | 56.2 | 18.0 | 27,600 |
| | CV% | 7.5 | NA | 1.3 | NA | 4.7 | 10.4 |
| | L.S.D. | 18.6 | 13.5 | 1.0 | 0.8 | 1.2 | NS |

Table 4. Grain Yield and Harvest Parameters hybrids less than 110 days to maturity, at OPREC and Joe Webb locations Oklahoma Corn Performance Trials, 2005.

| Company Brand Name | Entry Designation | Grain Yield lb/bu | | Test Weight bu/ac | | Harvest Moisture | | Plant Population plants/ac | |
|--------------------|-------------------|-------------------|----------|-------------------|----------|------------------|----------|----------------------------|----------|
| | | OPREC | Joe Webb | OPREC | Joe Webb | OPREC | Joe Webb | OPREC | Joe Webb |
| NTI-SPRRS | WWFH11 | 170.2 | 161.3 | 56.1 | 57.2 | 18.9 | 19.2 | 27,000 | 25,900 |
| NTI-SPRRS | WWFH01 | 148.3 | 153.4 | 58.4 | 57.8 | 15.7 | 14.7 | 25,300 | 26,700 |
| NTI-SPRRS | WWFH05* | | 153.1 | | 57.2 | | 13.0 | | 29,100 |
| NTI-SPRRS | WWFH15 | 137.7 | 150.1 | 58.4 | 58.5 | 15.7 | 13.9 | 25,500 | 27,700 |
| NTI-SPRRS | WWFH10 | 131.8 | 147.4 | 54.4 | 56.8 | 16.0 | 15.1 | 22,100 | 26,100 |
| NTI-SPRRS | WWFH04 | 132.6 | 145.2 | 57.6 | 58.1 | 15.1 | 13.8 | 27,400 | 29,400 |
| NTI-SPRRS | WWFH06* | | 144.7 | | 59.4 | | 12.6 | | 27,400 |
| NTI-SPRRS | WWFH02 | 112.7 | 141.4 | 58.8 | 58.8 | 16.3 | 13.8 | 25,800 | 28,700 |
| NTI-SPRRS | WWFH07 | 124.1 | 131.5 | 56.5 | 57.0 | 12.4 | 11.7 | 25,800 | 27,200 |
| | Mean | 136.8 | 147.6 | 57.2 | 57.9 | 15.7 | 14.2 | 25,600 | 27,600 |
| | CV% | 9.1 | 8.9 | 1.2 | 0.8 | 5.0 | 6.4 | 10.2 | 5.8 |
| | L.S.D. | 18.6 | 19.1 | 1.0 | 0.7 | 1.2 | 1.3 | NS | 2,300 |

* Only had enough seed for Joe Webb trial

Cooperator: OPREC

Soil Series: Richfield Clay Loam

Conventional tillage following soybean in 2004

Soil Test: N: 38 P: 14 K: 936 pH: 7.6

Fertilizer: N: 200 lbs/ac P: 50 lbs/ac P₂O₅ K: 0

Herbicide: 2 qt/ac Cinch ATZ Lite (Preemergence)

Planting Date: April 7, 2005

Harvest Date: Grain September 15, 2005;

Ensilage August 19, 2005

Cooperator: Joe Webb

Soil Series: Richfield Clay Loam

Strip-Till: Following wheat and sunflowers in 2004

Soil Test: N: NA P: NA K: NA pH: NA

Fertilizer: N: 230 lbs/ac P: 0 K: 0

Herbicide: 1.5qt/ac Harness Extra (Preemergence)

Planting Date: April 6, 2005

Harvest Date: Grain September 13, 2005

Table 5. Grain Yield and Harvest Parameters from Joe Webb location for hybrids more than 110 days to maturity Oklahoma Corn Performance Trials, 2005.

| Company Brand Name | Entry Designation | Grain Yield bu/ac | | Test Weight lb/bu | | Harvest Moisture | Plant Population plants/ac |
|---|--------------------|-------------------|----------|-------------------|----------|------------------|----------------------------|
| | | 2005 | Two year | 2005 | Two year | | |
| Triumph Seed Co., Inc | 1866Bt | 219.5 | 244.8 | 57.9 | 57.5 | 18.0 | 31,100 |
| Frontier Hybrids, Inc. | F-3175 | 211.1 | 237.1 | 57.5 | 57.0 | 19.1 | 29,300 |
| Garst Seed Company | 8292YGI | 221.5 | 228.2 | 56.7 | 55.8 | 21.7 | 31,800 |
| Stauffer Seeds | 2721 | 198.9 | 222.9 | 56.8 | 56.2 | 16.4 | 31,300 |
| Garst Seed Company | 8377YGI/RR | 202.4 | 212.5 | 56.9 | 56.0 | 17.5 | 31,700 |
| Triumph Seed Co., Inc | 1416 Bt | 190.5 | 208.6 | 57.1 | 56.0 | 16.3 | 30,900 |
| Asgrow Seed | RX752YG | 190.1 | 207.6 | 57.7 | 57.2 | 17.1 | 31,100 |
| Garst Seed Company | 8270 RR | 196.6 | 205.6 | 55.8 | 55.1 | 18.1 | 30,800 |
| Garst Seed Company | 8383YGI | 183.7 | 202.1 | 57.4 | 56.7 | 16.6 | 27,000 |
| Dekalb Genetics | DKC 60-19 RR2/YGCB | 175.8 | 193.8 | 57.9 | 57.3 | 15.2 | 30,700 |
| Frontier Hybrids, Inc. | F-3250 | 176.5 | 186.3 | 57.6 | 56.6 | 19.5 | 27,200 |
| NC+ Hybrids | 5433 RB | 208.8 | ---- | 57.0 | ---- | 16.8 | 30,300 |
| Garst Seed Company | 8275 YG1 | 208.5 | ---- | 55.9 | ---- | 18.0 | 32,100 |
| Garst Seed Company | 8380 IT | 207.6 | ---- | 56.5 | ---- | 18.2 | 29,800 |
| Golden Harvest Seeds | H-9250 Bt/RR | 198.3 | ---- | 57.5 | ---- | 16.6 | 30,500 |
| NC+ Hybrids | 7401 | 198.3 | ---- | 53.1 | ---- | 22.1 | 28,100 |
| Dekalb Genetics | DKC 66-21 YGCB | 198.1 | ---- | 56.9 | ---- | 18.8 | 29,700 |
| Laser Brand (Distributed by Golden Harvest) | L-9H50 Bt/RR | 194.2 | ---- | 56.9 | ---- | 17.2 | 29,400 |
| Frontier Hybrids, Inc. | PB 654 YGCB | 193.6 | ---- | 57.1 | ---- | 18.6 | 30,500 |
| Triumph Seed Co., Inc | 1536 CbRR | 193.4 | ---- | 56.4 | ---- | 17.0 | 29,800 |
| Dekalb Genetics | DKC 63-62 RR2 | 190.3 | ---- | 57.9 | ---- | 15.8 | 31,700 |
| Dekalb Genetics | DKC 61-72 RR2 | 189.4 | ---- | 57.0 | ---- | 16.1 | 30,800 |
| Frontier Hybrids, Inc. | PB 661 RR | 184.6 | ---- | 56.6 | ---- | 18.7 | 27,700 |
| Golden Harvest Seeds | H-9485 Bt | 170.2 | ---- | 56.0 | ---- | 18.3 | 29,900 |
| | Mean | 195.9 | 213.6 | 56.8 | 56.5 | 17.8 | 30,100 |
| | CV% | 12 | ---- | 0.9 | ---- | 4.7 | 7.0 |
| | L.S.D. | NS | 22.0 | 0.7 | 0.6 | 1.2 | 3,000 |

Table 6. Ensilage Yields and Quality Panhandle Corn Performance Trial, 2005.

| Company Brand Name | Entry Designation | YIELD Tons/ac | | Plant Population plants/ac |
|---|----------------------|------------------|----------|----------------------------------|
| | | 2005 | Two-year | |
| Frontier Hybrids, Inc. | F-3175 | 25.4 | 27.5 | 25,700 |
| Triumph Seed Co., Inc | 1866Bt | 25.6 | 26.4 | 26,400 |
| Garst Seed Company | 8270 RR | 23.7 | 24.3 | 28,000 |
| Garst Seed Company | 8292YGI | 24.5 | 24.2 | 29,800 |
| Garst Seed Company | 8377YGI/RR | 24.1 | 24.1 | 31,500 |
| Frontier Hybrids, Inc. | F-3250 | 22.9 | 23.9 | 26,900 |
| Dekalb Genetics | DKC 60-19 RR2/YGCB | 22.9 | 23.5 | 28,900 |
| Triumph Seed Co., Inc | 1416 Bt | 21.4 | 22.8 | 28,800 |
| Asgrow Seed | RX752YG | 22.5 | 22.2 | 30,400 |
| Garst Seed Company | 8383YGI | 21.6 | 22.1 | 27,000 |
| Garst Seed Company | 8275 YG1 | 26.0 | | 30,700 |
| Dekalb Genetics | DKC 66-21 YGCB | 25.8 | | 28,000 |
| NC+ Hybrids | 5433 RB | 24.7 | | 29,300 |
| Triumph Seed Co., Inc | 1536 CbRR | 24.6 | | 29,900 |
| Frontier Hybrids, Inc. | PB 654 YGCB | 24.4 | | 29,500 |
| Garst Seed Company | 8380 IT | 23.9 | | 28,900 |
| Laser Brand (Distributed by Golden Harvest) | L-9H50 Bt/RR | 23.5 | | 28,600 |
| NTI-SPRRS | WWFH11 | 23.3 | | 27,700 |
| Golden Harvest Seeds | H-9485 Bt | 22.1 | | 24,900 |
| Golden Harvest Seeds | H-9250 Bt/RR | 21.9 | | 30,200 |
| Dekalb Genetics | DKC 61-72 RR2 | 21.9 | | 27,500 |
| NTI-SPRRS | WWFH01 | 21.9 | | 25,600 |
| NTI-SPRRS | WWFH06 | 21.0 | | 27,600 |
| NTI-SPRRS | WWFH07 | 20.9 | | 28,500 |
| NTI-SPRRS | WWFH15 | 20.9 | | 28,400 |
| NC+ Hybrids | 7401 | 20.8 | | 30,300 |
| Frontier Hybrids, Inc. | PB 661 RR | 20.4 | | 26,400 |
| Dekalb Genetics | DKC 63-62 RR2 | 20.4 | | 27,500 |
| NTI-SPRRS | WWFH04 | 20.2 | | 26,400 |
| NTI-SPRRS | WWFH10 | 19.4 | | 27,800 |
| Stauffer Seeds | 2721 | 19.3 | | 28,200 |
| NTI-SPRRS | WWFH05 | 19.1 | | 29,100 |
| NTI-SPRRS | WWFH02 | 18.9 | | 27,700 |
| | Mean | 22.4 | 24.1 | 28,200 |
| | CV% | 10.7 | 9.3 | 6.9 |
| | L.S.D. | 3.9 | 2.6 | 3,200 |