



OKLAHOMA CORN PERFORMANCE TRIALS, 2010



PRODUCTION TECHNOLOGY CROPS

OKLAHOMA COOPERATIVE EXTENSION SERVICE
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TRIAL OBJECTIVES AND PROCEDURES

Each year the Oklahoma Cooperative Extension Service conducts corn performance trials in Oklahoma. These trials provide producers, extension educators, industry representatives, and researchers with information on corn hybrids marketed in Oklahoma. Company participation was voluntary, so some hybrids marketed in Oklahoma were not included in the test. Company or brand name, entry designation, plant characteristics, and maturity information, were provided by the companies and were not validated by OSU; therefore, we strongly recommend consulting company representatives for more detailed information regarding these traits and disease resistance ratings (Tables 3 and 4).

Irrigated test plots were established at the Oklahoma Panhandle Research and Extension Center (OPREC) near Goodwell and the Joe Webb farm near Guymon. Fertility levels, herbicide use, and soil series (when available) are listed with data. Individual plots were two 25-foot rows seeded at a target population of 32,000 plants/ac. Plots were trimmed to 20 feet prior to being harvested to determine grain yield. The ensilage trial was seeded the same as the grain trial with 10 feet of one row harvested to determine yield. Experimental design for all locations was a randomized complete block with four replications. Grain yield is reported consistent with U.S. No. 1 grade corn (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 69% and production is reported as tons/ac adjusted to 65% moisture.

GROWING CONDITIONS

Corn planting started in early April but was delayed until mid April from rainfall. Most planting resumed April 28th and was not delayed again until mid May by which time most corn had been planted. Conditions for germination and emergence were good. Most corn acres required no pre-irrigation prior to planting, due to the 4.51 inches of precipitation received during the January through March time period. Temperatures during the growing season were near normal with no 100 °F recorded during May, June had 3, July had 4, and August had 10 days of 100 °F or greater. The number of days in August may have reduced yields on the later planted corn in 2010. Mean high temperatures for the period were near the long-term averages. The mean high temperature for May was 77 °F which is 2 degrees below the long term mean. For June, July and August the mean high temperatures were normal or slightly above, June 91°F compared to 88 °F, July 93 °F which is the long term mean, and August 93 °F compared to 91 °F. The number of 100 °F and higher than normal temperatures may have affected grain fill on the later planted corn. Rainfall for the period was above the long-term mean, but 38% was received in mid to late August (Table 1). Therefore irrigation scheduling was critical during most of the growing season. The harvest period had no major delays to weather and most producers reporting yields ranging from 200 bu/ac to over 250 bu/ac.

RESULTS

Grain yield, test weight, harvest moisture, and plant populations for OPREC and Webb trials are presented (Tables 3 and 4). 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 also provided in tables producers interested in comparing hybrids for consistency of yield should consult these.

The following people have contributed to this report by assisting in crop production, data collection, and publication; Roger Gribble, Jeff Bedwell, Tommy Puffinbarger, Donna George, Lawrence Bohl, Matt LaMar, Eddie Pickard, Wilson Henry, Cameron Murley, and Craig Chesnut. Their efforts are greatly appreciated.

Table 1. Rainfall and irrigation for irrigated corn performance trial locations in Texas County.

| Location | April | May | June | July | Aug | Total |
|----------------|-------|------|------|------|------|-------|
| Long-term mean | 1.33 | 3.25 | 2.86 | 2.58 | 2.28 | 12.30 |
| 2010 | 1.76 | 2.64 | 3.16 | 1.22 | 5.42 | 14.20 |
| Irrigation | | | | | | |
| Joe Webb | 0.0 | 4.0 | 6.0 | 6.0 | 2.0 | 18.0 |
| OPREC | 0.0 | 1.3 | 3.9 | 3.9 | 1.3 | 10.4 |

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Table 2. Characteristics of Corn Hybrids in Panhandle Corn Performance Trials, 2010.

| Company Brand Name | Hybrid | Plant Characteristics | | | | MATURITY |
|-----------------------|--|-----------------------|----|----|------|----------|
| | | SV | SS | SG | EP | Days |
| Golden Acres | GA 26V21 | 1 | 1 | 2 | M | 115 |
| Golden Acres | GA 208V81 | 2 | 2 | 2 | M | 118 |
| Golden Acres | GA 27V01 | 2 | 2 | 2 | High | 117 |
| Mycogen Seeds | TMF2H918 | 8 | 8 | NA | NA | 123 |
| Mycogen Seeds | TMF2L844 | 7 | 7 | NA | NA | 119 |
| Mycogen Seeds | F2F622 | 8 | 7 | NA | NA | 109 |
| Mycogen Seeds | F2F700 | 8 | 8 | NA | NA | 113 |
| Terral Seed, Inc | Rev TM 25HR39 TM | 8 | 7 | 5 | MH | 115 |
| Terral Seed, Inc | Rev TM 25R19 TM | 8 | 7 | 5 | MH | 115 |
| Terral Seed, Inc | Rev TM 26R60 TM | 7 | 6 | 6 | M | 116 |
| Terral Seed, Inc | Rev TM 28HR20 TM | 7 | 7 | 7 | MH | 118 |
| Terral Seed, Inc | Rev TM 28HR30 TM | 7 | 7 | 8 | MH | 118 |
| Terral Seed, Inc | Rev TM 28R30 TM | 7 | 7 | 8 | MH | 118 |
| Terral Seed, Inc | Rev TM 28R10 TM | 7 | 7 | 7 | MH | 118 |
| Triumph Seed Co. Inc. | 1536H | 2 | 3 | 3 | M | 115 |
| Triumph Seed Co. Inc. | TRX01601 | 3 | 3 | 3 | M | 116 |
| Triumph Seed Co. Inc. | 7514X | 3 | 3 | 3 | M | 114 |
| Triumph Seed Co. Inc. | 1420V | 3 | 3 | 3 | M | 114 |
| Triumph Seed Co. Inc. | 1825V | 3 | 2 | 2 | MH | 118 |
| Triumph Seed Co. Inc. | 2288H | 3 | 2 | 1 | H | 122 |

* 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 Joe Webb location, Oklahoma Corn Performance Trials, 2010.

| Company Brand Name | Hybrid | Grain Yield Bu/ac | Test Weight Lb/bu | Harvest Moisture | Plant Population plants/ac |
|-----------------------|--------------|-------------------|-------------------|------------------|----------------------------|
| Triumph Seed Co. Inc. | 1825V | 232 | 58.0 | 13.8 | 33,200 |
| Terral Seed, Inc | Rev™ 28R10™ | 205 | 60.5 | 13.9 | 31,700 |
| Golden Acres | GA 208V81 | 203 | 59.9 | 13.8 | 29,800 |
| Terral Seed, Inc | Rev™ 28HR20™ | 197 | 60.6 | 13.9 | 32,800 |
| Terral Seed, Inc | Rev™ 28HR30™ | 192 | 60.5 | 14.5 | 31,300 |
| Golden Acres | GA 27V01 | 190 | 56.9 | 12.3 | 31,500 |
| Triumph Seed Co. Inc. | 7514X | 187 | 58.2 | 14.4 | 31,100 |
| Triumph Seed Co. Inc. | 2288H | 185 | 59.2 | 17.8 | 28,300 |
| Triumph Seed Co. Inc. | 1420V | 181 | 59.7 | 13.1 | 33,400 |
| Mycogen Seeds | TMF2H918 | 181 | 58.0 | 20.7 | 30,900 |
| Terral Seed, Inc | Rev™ 25HR39™ | 179 | 61.0 | 12.8 | 31,400 |
| Terral Seed, Inc | Rev™ 28R30™ | 177 | 59.5 | 13.4 | 32,900 |
| Terral Seed, Inc | Rev™ 26R60™ | 173 | 60.0 | 14.7 | 30,700 |
| Terral Seed, Inc | Rev™ 25R19™ | 172 | 60.7 | 14.1 | 31,600 |
| Golden Acres | GA 26V21 | 172 | 58.1 | 12.1 | 30,700 |
| Triumph Seed Co. Inc. | 1536H | 164 | 60.3 | 12.6 | 30,500 |
| Mycogen Seeds | TMF2L844 | 153 | 58.3 | 13.0 | 28,700 |
| Mycogen Seeds | F2F622 | 145 | 60.3 | 12.3 | 34,300 |
| Mycogen Seeds | F2F700 | 112 | 61.1 | 12.6 | 34,100 |
| | Mean | 179 | 59.5 | 14.0 | 31,500 |
| | CV % | 8.9 | 1.1 | 9.9 | 8.5 |
| | L.S.D. | 23 | 0.9 | 2.0 | NS |

Cooperator: Joe Webb

Soil Series: Richfield Clay Loam

Strip-Till: Following wheat in 2009

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

Fertilizer: N: 230 lbs/ac P: 50 lbs P2O5/ac K: 0 and 5 gal 10-34-0 in row with planter

Herbicide: 1.5qt/ac Harness Extra (Preemergence) + 3/4 oz/ac Balance

Planting Date: April 14, 2010

Harvest Date: September 21, 2010

Table 4. Ensilage Yields and Quality Panhandle Corn Performance Trial, 2010.

| Company Brand Name | Hybrid | YIELD Tons/ac | Plant Population plants/ac | Harvest Moisture % |
|-----------------------|--|------------------|----------------------------------|--------------------------|
| Golden Acres | GA 27V01 | 28.5 | 30,900 | 53.7 |
| Triumph Seed Co. Inc. | 1825V | 28.2 | 29,200 | 51.9 |
| Triumph Seed Co. Inc. | 2288H | 28.1 | 28,500 | 59.2 |
| Golden Acres | GA 208V81 | 28.0 | 29,000 | 54.4 |
| Mycogen Seeds | TMF2H918 | 27.8 | 28,700 | 57.6 |
| Mycogen Seeds | TMF2L844 | 27.5 | 30,900 | 54.8 |
| Terral Seed, Inc | Rev TM 26R60 TM | 27.2 | 30,600 | 50.5 |
| Terral Seed, Inc | Rev TM 25R19 TM | 27.0 | 31,500 | 52.7 |
| Triumph Seed Co. Inc. | 1536H | 26.2 | 30,200 | 49.5 |
| Terral Seed, Inc | Rev TM 28HR30 TM | 24.4 | 31,200 | 52.2 |
| Terral Seed, Inc | Rev TM 28R30 TM | 24.3 | 30,800 | 50.9 |
| Triumph Seed Co. Inc. | 1420V | 24.3 | 32,500 | 52.6 |
| Mycogen Seeds | F2F700 | 24.0 | 29,200 | 53.5 |
| Terral Seed, Inc | Rev TM 28HR20 TM | 23.8 | 30,200 | 52.1 |
| Terral Seed, Inc | Rev TM 25HR39 TM | 23.6 | 30,500 | 54.3 |
| Terral Seed, Inc | Rev TM 28R10 TM | 23.6 | 29,900 | 51.7 |
| Golden Acres | GA 26V21 | 23.6 | 28,600 | 54.8 |
| Triumph Seed Co. Inc. | 7514X | 23.1 | 29,800 | 52.7 |
| Mycogen Seeds | F2F622 | 23.0 | 31,800 | 52.1 |
| Triumph Seed Co. Inc. | TRX01601 | 22.6 | 27,600 | 52.3 |
| | Mean | 25.4 | 30,100 | 53.1 |
| | CV % | 13.9 | 7.4 | 5.3 |
| | L.S.D. | NS | NS | 4.6 |

Cooperator: OPREC

Soil Series: Richfield Clay Loam

Strip-till: wheat double crop sunflower in 2009

Soil Test: N: 28 P: 14 K: 876 pH: 7.6

Fertilizer: N: 230 lbs/ac P: 50 lbs/ac P₂O₅ K: 0 and 5 gal 10-34-0 in row with planter

Herbicide: 2 qt/ac Cinch ATZ Lite (Preemergence) + .75 oz Balance Flex

Planting Date: April 29, 2010

Harvest Date: September 11, 2010