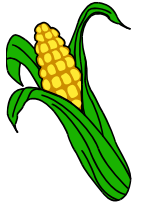




OKLAHOMA PANHANDLE CORN PERFORMANCE TRIALS, 2008



PRODUCTION TECHNOLOGY CROPS

OKLAHOMA COOPERATIVE EXTENSION SERVICE
DEPARTMENT OF PLANT AND SOIL SCIENCES
DIVISION OF AGRICULTURAL SCIENCES & NATURAL RESOURCES
OKLAHOMA STATE UNIVERSITY

PT 2008-5

November 2008

Vol. 20, No. 5

Rick Kochenower

Area Research and Extension Specialist
Plant and Soil Sciences Department

Britt Hicks

Area Extension Livestock Specialist
Northwest District

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 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 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

In 2008 soil moisture for planting corn in the panhandle region was supplied by pre-irrigation due to lack of rainfall in the previous 10 months. Rainfall from July 1 2007 through April 30 2008 was 40% of average (4.71 inches compared to 11.78 inches). Also 40% or the 4.71 inches fell in July of 2007; therefore, stored soil moisture from rainfall was minimal. Rainfall continued to be below the long term average until significant rainfall was received in July (Table 1). The OPREC soil temperature of 55 ° F on April 1 at the two-inch depth was lower than observations in previous years. The pollination period for most corn (July 1 through July 15 was) nearly ideal with temperatures below the long term average for 11 of the 15 days (Fig 1). Also the temperatures remain near average for most of the month, with the only 100 ° F recorded the 31st of July 2008. Lower than average temperatures (high temperatures from Aug 10 to 30th ranged from 65 to 92) and rainfall in August delayed maturity of corn, therefore silage and grain harvest was approximately two weeks later than normal. Grain yields for producers were good with reported yields of 240 bu/ac reported. The yields at the Joe Webb location were as good as any in the last 10 year of trails in the panhandle region.

RESULTS

Grain yield, test weight, harvest moisture, and plant populations for OPREC and Webb trials are presented (Tables 3-5). Ensilage yields are reported in Table 8. Protein, Acid Detergent Fiber (ADF) and Total Digestible Nutrients (TDN), however are not reported, because no significant differences existed among hybrids. Averages were 5.8, 34.1, and 62.3 %, for Protein, ADF and TDN respectively. Similarly, there were no differences among hybrids in energy values for, maintenance, lactation, and gain values with averages of 0.63, 0.64, and 0.37 MCal/lb respectively. Least Significant

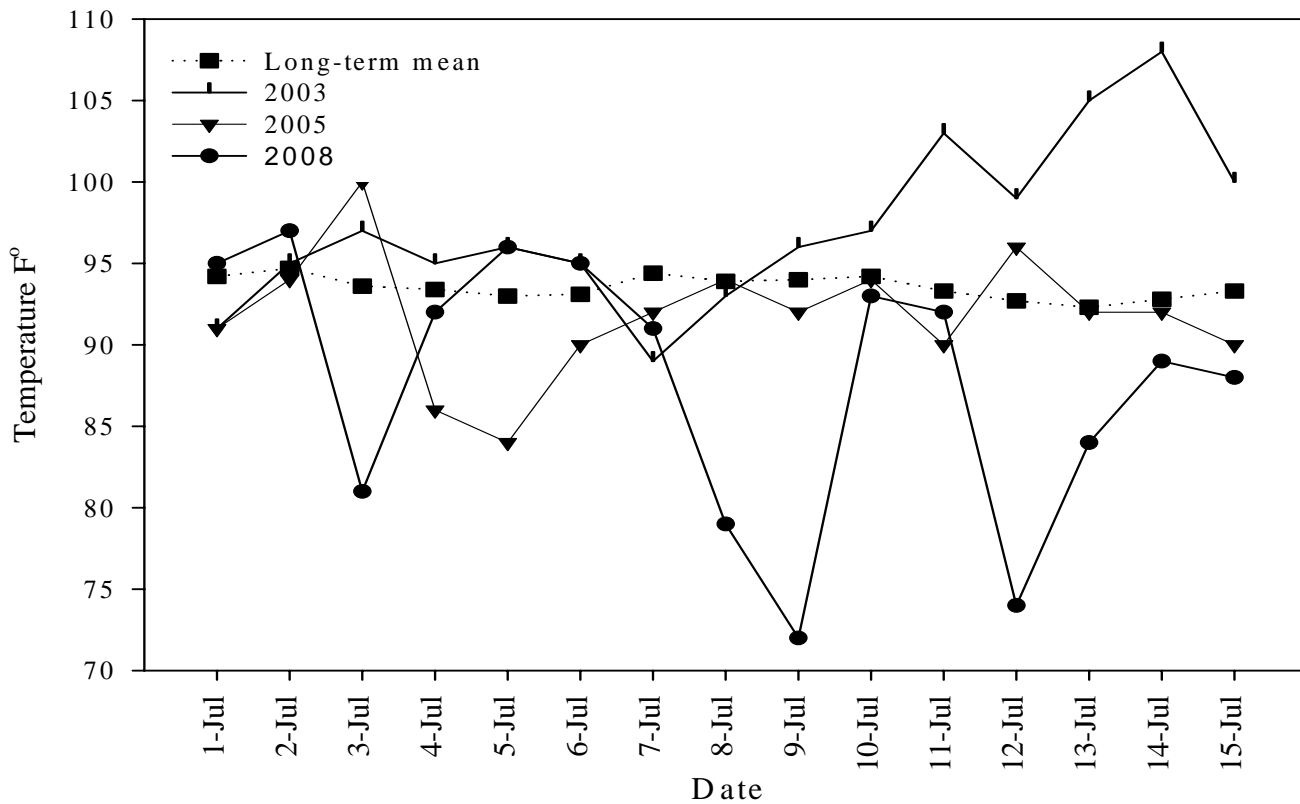
Differences (L.S.D.) are shown at the bottom of each table. Unless two entries differ by at least the L.S.D. shown, little confidence can be placed in one being superior to another. The coefficient of variation (C.V.) is provided as an estimate of the precision of the data with respect to the mean. To 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; 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
2007	0.61	0.93	1.51	3.77	5.64	12.46
Irrigation						
OPREC	2.5	3.75	6.25	3.75	1.25	17.5
Joe Webb	3.0	4.0	7.0	5.0	2.0	21.0

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



Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, sex, age, religion, disability, or status as a veteran in any of its policies, practices or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services. Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Bob Whitson, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Dean of the Division of Agricultural Sciences and Natural Resources.

Table 2. Characteristics of Corn Hybrids in Panhandle Corn Performance Trials, 2008.

Company Brand Name	Hybrid	Plant Characteristics				MATURITY Days
		SV	SS	SG	EP	
Triumph Seed Co., Inc	1536 VT3	NA	NA	NA	NA	114
Triumph Seed Co., Inc	1109 VT 3	NA	NA	NA	NA	111
Dekalb Genetics	DKC 64-79 VT3	3	5	5	M	114
Dekalb Genetics	DKC 61- 69 VT3	3	4	3	M	111
NC+ Hybrids INC.	5393 VT3	3	4	4	M	NA
NC+ Hybrids INC.	5453 VT3	3	3	3	M	NA
NC+ Hybrids INC.	6125 RBD	3	4	4	H	NA
Triumph Seed Co., Inc	1608 VT3	NA	NA	NA	NA	115
Triumph Seed Co., Inc	1706VT3	NA	NA	NA	NA	117
Midwest Seed Genetics	79123 VT3	3	4	4	M	NA
Midwest Seed Genetics	80404 VT3	3	3	3	M	NA
Midwest Seed Genetics	8T215	3	4	4	H	NA
Dekalb Genetics	DKC65-44	NA	NA	NA	NA	NA
Dekalb Genetics	DKC65-23	NA	NA	NA	NA	NA
Dekalb Genetics	DKC66-23	NA	NA	NA	NA	NA
Dekalb Genetics	DKC 62-99 RR2/YGCB	3	4	3	ML	112
Mycogen	TMF 2H917	8	8	NA	NA	123
Mycogen	TMF 2L844	7	6	NA	NA	119
Mycogen	TMF 2N804	7	7	NA	NA	116
Mycogen	F2F 797	7	7	NA	NA	115
Mycogen	F2F 725	7	8	NA	NA	113
Mycogen	TMF 2Q759	7	7	NA	NA	114
Triumph Seed Co., Inc	TRX 8892	NA	NA	NA	NA	114

* 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, 2008.

Company Brand Name	Entry Designation	Grain Yield Bu/ac	Test Weight Lb/bu	Harvest Moisture
Triumph Seed Co., Inc	1536 VT3	273.2	58.9	16.1
NC+ Hybrids INC.	5453 VT3	273.2	60.3	16.4
Triumph Seed Co., Inc	1608 VT3	270.1	58.9	16.6
Triumph Seed Co., Inc	1109 VT 3	268.3	59.5	15.1
Midwest Seed Genetics	80404 VT3	259.4	60.7	16.1
Midwest Seed Genetics	8T215	256.1	59.3	17.1
Dekalb Genetics	DKC66-23	246.7	59.4	16.2
NC+ Hybrids INC.	5393 VT3	245.7	59.7	16.6
Midwest Seed Genetics	79123 VT3	245.5	59.8	16.1
Dekalb Genetics	DKC 64-79 VT3	240.8	60.2	14.8
Dekalb Genetics	DKC65-44	239.9	60.5	15.8
Triumph Seed Co., Inc	1706VT3	221.4	58.6	17.6
NC+ Hybrids INC.	6125 RBD	221.1	59.7	16.9
Dekalb Genetics	DKC 62-99 RR2/YGCB	218.4	61.1	15.0
Dekalb Genetics	DKC 61- 69 VT3	216.6	61.2	15.4
	Mean	246.4	59.8	16.1
	CV%	11.3	1.2	3.4
	L.S.D.	39.7	1.0	0.8

Dekalb Genetics DKC65-23 was planted but trial was sprayed with roundup

Cooperator: Joe Webb

Soil Series: Richfield Clay Loam

Strip-Till: Following wheat and sunflowers in 2007

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

Fertilizer: N: 230 lbs/ac P: 50 lbs P2O5/ac K: 0

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

Planting Date: April 15, 2008

Harvest Date: October 1, 2008

Table 4. Grain Yield and Harvest Parameters OPREC location, Oklahoma Corn Performance Trials, 2008.

Company Brand Name	Entry Designation	Grain Yield Bu/ac	Test Weight Lb/bu	Harvest Moisture	Plant Population plants/ac
Triumph Seed Co., Inc	1706VT3	210.4	57.5	17.8	28,200
NC+ Hybrids INC.	5393 VT3	209.1	57.4	14.9	33,000
Midwest Seed Genetics	8T215	200.6	57.9	17.8	31,800
NC+ Hybrids INC.	5453 VT3	199.6	58.9	16.8	27,200
Triumph Seed Co., Inc	1536 VT3	194.0	57.4	17.4	28,500
Dekalb Genetics	DKC 62-99 RR2/YGCB	193.4	60.1	14.7	29,100
NC+ Hybrids INC.	6125 RBD	193.3	56.7	17.2	28,700
Triumph Seed Co., Inc	1109 VT 3	193.2	57.2	15.0	28,100
Triumph Seed Co., Inc	1608 VT3	192.6	56.6	17.5	27,600
Dekalb Genetics	DKC66-23	187.3	57.6	16.3	31,800
Dekalb Genetics	DKC 61- 69 VT3	186.1	59.3	15.2	31,100
Midwest Seed Genetics	79123 VT3	183.3	57.2	15.5	31,400
Dekalb Genetics	DKC65-44	174.0	60.2	16.1	30,500
Midwest Seed Genetics	80404 VT3	171.3	59.7	15.9	30,800
Dekalb Genetics	DKC 64-79 VT3	164.2	58.9	13.9	26,100
Dekalb Genetics	DKC65-23	142.6	58.6	15.2	30,900
	Mean	187.2	58.2	16.1	29,700
	CV%	9.6	1.5	4.8	11
	L.S.D.	30.0	1.4	1.3	NS

Cooperator: OPREC

Soil Series: Richfield Clay Loam

Strip-till: wheat double crop sunflower in 2007

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

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

Herbicide: 1.5 qt/ac Cinch ATZ Lite (Preemergence) + .75 oz Balance

Planting Date: April 14, 2008

Harvest Date: October 3, 2008

Table 5. Ensilage Yields and Quality Panhandle Corn Performance Trial, 2008.

Company Brand Name	Entry Designation	YIELD Tons/ac	Plant Population plants/ac	Harvest Moisture %
Mycogen	TMF 2H917	27.7	31,600	0.73
Triumph Seed Co., Inc	TRX 8892	24.8	32,800	0.74
Dekalb Genetics	DKC65-44	23.9	31,900	0.67
Dekalb Genetics	DKC 62-99 RR2/YGCB	23.8	34,400	0.72
Mycogen	TMF 2Q759	23.3	31,100	0.66
Dekalb Genetics	DKC 64-79 VT3	22.9	31,200	0.69
Triumph Seed Co., Inc	1706VT3	22.8	30,900	0.71
Mycogen	F2F 725	22.8	29,900	0.71
NC+ Hybrids INC.	6125 RBD	22.7	31,100	0.69
Midwest Seed Genetics	80404 VT3	22.7	30,800	0.68
Dekalb Genetics	DKC66-23	22.5	31,900	0.66
Mycogen	TMF 2N804	22.3	30,000	0.73
Triumph Seed Co., Inc	1536 VT3	22.2	32,700	0.67
Triumph Seed Co., Inc	1608 VT3	22.2	31,400	0.68
Midwest Seed Genetics	8T215	22.1	31,200	0.67
Dekalb Genetics	DKC65-23	22.1	30,800	0.65
NC+ Hybrids INC.	5453 VT3	22.0	28,700	0.69
Triumph Seed Co., Inc	1109 VT 3	21.5	32,800	0.69
Midwest Seed Genetics	79123 VT3	19.6	30,500	0.67
Mycogen	TMF 2L844	19.6	31,400	0.73
Dekalb Genetics	DKC 61- 69 VT3	19.4	30,800	0.66
NC+ Hybrids INC.	5393 VT3	18.5	33,100	0.64
Mycogen	F2F 797	18.5	31,300	0.72
	Mean	22.2	31,400	0.69
	CV%	14.1	8.0	3.7
	L.S.D.	5.2	NS	0.4

Cooperator: OPREC

Soil Series: Richfield Clay Loam

Strip-till: wheat double crop sunflower in 2007

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

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

Herbicide: 1.5 qt/ac Cinch ATZ Lite (Preemergence) + .75 oz Balance

Planting Date: April 14, 2008

Harvest Date: August 27, 2008