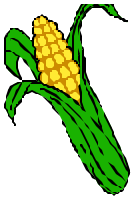


OKLAHOMA PANHANDLE CORN PERFORMANCE TRIALS, 2005



PRODUCTION TECHNOLOGY CROPS

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

PT 2005-17

November 2005

Vol. 17, No.17

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 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.

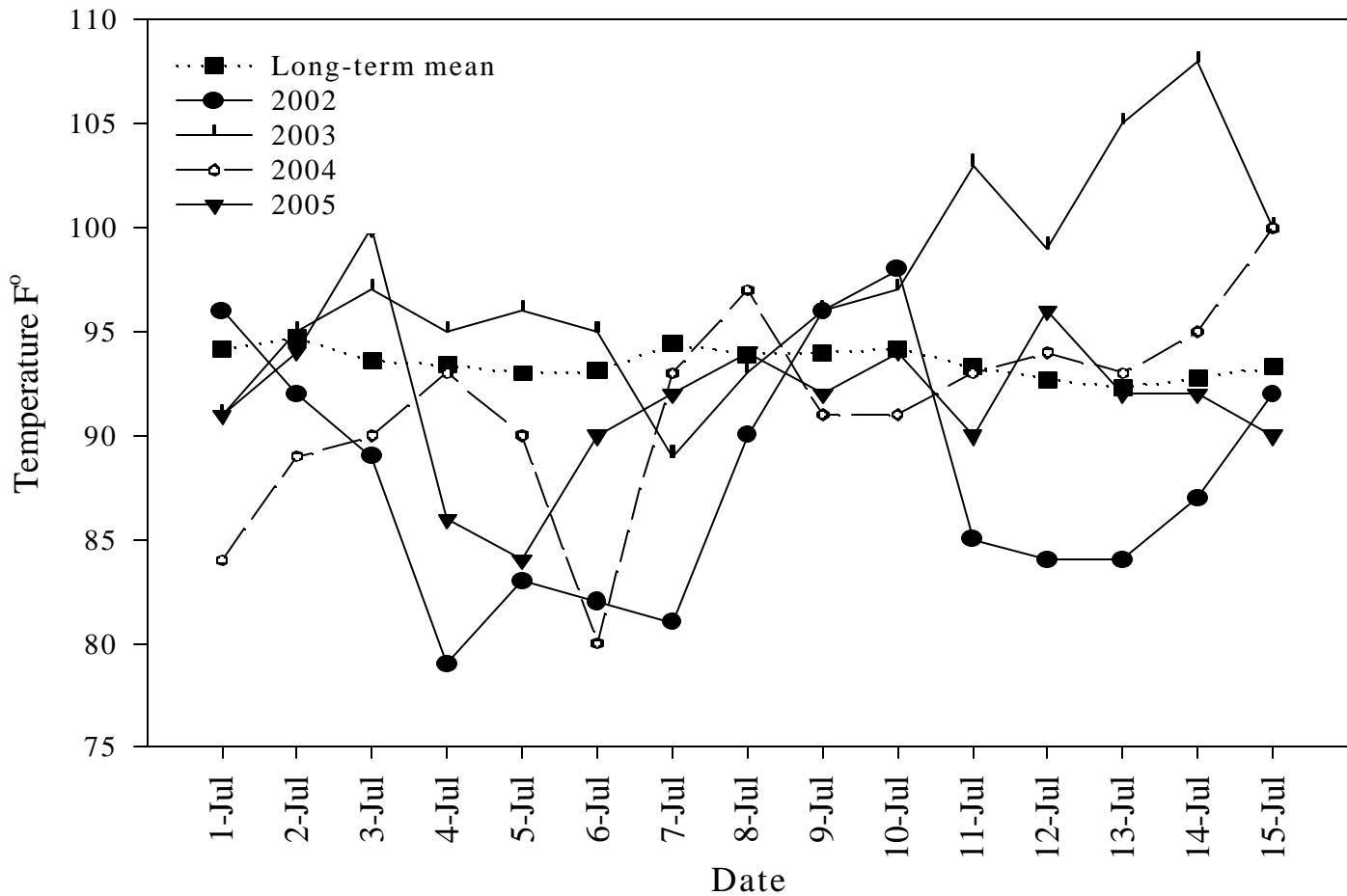


Table 1. Rainfall and irrigation for irrigated corn performance trial locations, 2005.

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

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, Samuel E. Curl, 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, 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