



Current Report

Cooperative Extension Service • Division of Agriculture • Oklahoma State University

1986 CORN YIELD TEST

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The Oklahoma Corn Yield Test is conducted each year to provide growers information to aid in selecting hybrids for their production conditions. Available resources and the distribution of corn production in the state regulates the locations selected. Corn yield tests in 1986 were conducted by Oklahoma State University at the Panhandle Research Station, Goodwell and at the Vegetable Station, Bixby. An additional site is planned in a site to be determined near Idabel.

Entries

Entries in the Oklahoma Corn Yield Test are obtained from seed companies and/or individuals. No attempt is made to include hybrids not voluntarily entered.

Growing Conditions

The average yield of all entries at a specific test site provides an indication of overall production conditions at that location (See Table 1). Agronomic practices were selected to attempt to obtain optimum yields listed in Table 2. Corn borers contributed to the higher than normal lodging experienced at the site in Goodwell.

Testing Procedures

Tests conducted at Ada and Bixby were planted in 30 inch rows with four replications per location. A four row plot 25 feet long was planted and 17 feet five inches of the center two rows were harvested for grain yield.

The test at Goodwell was planted in 28 inch rows with four replications. Goodwell was furrow irrigated. A four row plot 25 feet long was planted and 1/1000th acre was harvested for grain yield. Silage yields were harvested from similar plots under the same management.

Characters Evaluated

Yield: For grain yields, plots were harvested when all entries reached physiologi-

cal maturity and moisture levels were below 35 percent. Silage was harvested when the grain reached the dent stage and was slightly glazed.

Ears per 100 plants: Stand counts were taken at harvest along with ear counts to determine ears per 100 plants.

Stalk Lodging: Plants broken over below the ear and leaning greater than 45 degrees from vertical were considered lodged.

Moisture at Harvest: A subsample of shelled grain was used to determine percent moisture at harvest. Dry matter yields of silage were determined from wet subsamples which were dried in a forced air oven for four days.

Protein: A subsample of grain and storer for each entry was sent to the OSU Soil Testing Laboratory for analysis of total nitrogen from which the percent protein was derived.

Interpretation of Results

Even though two entries have similar genetic potential for yield and other characteristics, their performance may differ because of variation in fertility and other environmental characteristics among plots or test sites. If the difference between two entries at a given location is greater than the LSD value at the bottom of the table, indications are that those two entries performed significantly different with respect to genetic potential under those growing conditions. The occurrence of a non-significant different indicates all entries performed relatively the same.

Variety Selection

The primary consideration in selecting a hybrid is harvestable yield. This test and tests established by seed companies should be consulted when selecting adapted hybrids. The average performance over two or more years should be considered when data are available.

Table 1. General location information for the 1986 test.

Cooperator and Location	Soil Type	Average Yield (bu/A @ 15.5% moisture)
Vegetable Station, Bixby	Wynona silty clay loam	76.5
Panhandle Research Station, Goodwell	Richfield silty clay loam	198.3

Table 2. Agronomic practices at each location in 1986.

	Bixby			Goodwell
Fertility (lbs applied)	N:165	P:39	K:39	N:240
Rainfall (acre inches)*	18.39			11.5 silage 11.6 grain
Irrigation (acre inches)**	-----			21.5
Planting date	10 April			1 May
Harvest date	1 August			Silage - 5 Sept. Grain -
Planted Population	26,000			30,000
Target Population	23,250			26,000

*Rainfal for 1 January to Harvest

**Goodwell was prewatered 4 April - 4 acre inches and subsequent irrigations were 2.5 acre inches per application beginning on 24 June

Table 3. Corn grain yield test, non-irrigated, Bixby, 1986.

Entry	Yield* (bu/Acre)	Population (1000 plants/Acre)	Lodging (%)	Moisture** (%)
PAG SX 352	79.6	26.3	3	25.6
Paymaster 8990	76.3	24.0	4	28.5
T-E 6996	82.1	23.3	7	25.9
Asgrow/O's Gold RX 860	75.7	24.9	1	28.0
TR 3303	87.7	28.0	1	25.5
TR 1160	83.1	25.5	8	30.0
TR 4405	68.8	23.3	8	28.0
Seed Tec 915	84.5	24.4	5	28.6
Funk's/Ring-Around RA-1505	54.7	20.4	26	29.8
Funk's G-4635	78.1	23.5	5	28.2
Funk's G-4673A	74.5	24.1	12	27.3
Overall Mean	76.8	24318	7.4	27.8
LSD (5%)	18.6			
CV (%)	16.8			

*Yield @ 15.5% moisture
 ** @ Harvest

Table 4. Corn grain yield test, irrigated, Goodwell, 1986.

Entry	Yield* (bu/Acre)	Population (1000 plants/Acre)	Lodging (%)	Moisture** (%)	Protein (%)
PAG SX 352	208.0	30.0	8	14.1	10.6
Paymaster 8990	169.3	31.5	20	16.9	11.9
T-E 6996	205.0	31.5	8	16.6	12.5
Asgrow/O's Gold RX 860	201.5	25.3	24	15.6	11.9
TR 3303	207.5	26.3	12	14.5	11.3
TR 1160	202.3	27.5	22	15.7	12.5
TR 4405	189.5	25.5	7	17.4	11.3
Seed Tec 915	184.5	30.5	10	16.2	11.9
Funk's/Ring-Around RA-1505	199.8	25.0	8	14.5	10.0
Funk's G-4635	211.3	28.0	9	16.7	11.9
Funk's G-4673A	203.3	27.8	13	15.1	9.4
Overall Mean	198.3	20962	13	15.8	
LSD (5%)	20.6				
CV (%)	7.2				

*Yield @ 15.5% moisture
 ** @ Harvest

Table 5. Corn silage yield test, irrigated, Goodwell, 1986.

Entry	68% Moisture (tons/Acre)	Oven Dry (tons/Acre)	Dry Matter (%)	Protein (%)
PAG SX 352	34.1	10.9	35	7.5
Paymaster 8990	35.7	11.4	32	8.1
T-E 6996	40.9	13.1	33	8.8
Asgrow/O's Gold RX 860	36.4	11.6	36	5.6
TR 3303	35.4	11.3	35	5.0
TR 1160	34.7	11.1	35	7.5
TR 4405	36.9	11.8	34	7.5
Seed Tec 915	34.8	11.1	35	6.9
Funk's/Ring-Around RA-1505	33.4	10.7	34	7.5
Funk's G-4635	33.3	10.7	35	9.4
Funk's G-4673A	34.9	11.2	32	6.7
Overall Mean	35.5	11.4	34	
LSD (5%)	NS*	NS		
C.V.	8.4	8.4		

*NS - non-significant

Table 6. Origin of hybrid entries in 1986.

Company	Address	Entries
Paymaster Seeds	P.O. Box 9993, Minneapolis, MN 55440	
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Taylor - Evans Seed Co.	Box 68, Tulia, TX 79088	
Asgrow Seed Co.	7000 Portage Rd., Kalamazoo, MI 49001	
Terra Seed Co.	P.O. Box 10121, Lubbock, TX 79408	
Terra Seed Co.	P.O. Box 10121, Lubbock, TX 79408	
Terra Seed Co.	P.O. Box 10121, Lubbock, TX 79408	
Seed Tec Int'l	Front St., Hereford, TX 79045	
Funk's Seed's Int'l	719 W. 26th St., Lubbock, TX 79404	



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