



Current Report

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Oklahoma Corn Performance Trials, 2013

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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, maturity information, and trial locations 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 (Table 1).

Irrigated test plots were established at the Oklahoma Panhandle Research and Extension Center (OPREC) near Goodwell and the Joe Webb farm near Guymon. Three rainfed trials were planted in north central Oklahoma near Burlington, Enid, and Ponca City. 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 also listed with the data. Plots were trimmed to 20 feet prior to being harvested to determine grain yield. A separate ensilage trial was planted 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 percent). Corn ensilage was harvested earlier than optimum for some hybrids in 2013 with a moisture content of greater than 70 percent and production is reported as tons/ac adjusted to 65 percent moisture.

Growing Conditions

Adequate soil moisture was available for germination and emergence at planting at all locations. Planting started in early March in the body of the state with short delays due to precipitation and freezing temperatures. In the Panhandle planting

Highlights

Producers reported excellent yields east of a line from Enid to Lawton. Even with the high yields aflatoxin was a problem in some fields and price reductions were reported. The above normal precipitation and cooler temperatures in July increased yields for longer maturity hybrids at the Enid and Ponca City locations. In the Panhandle region some of the highest yields ever, 290 bu/ac were reported by producers.

started mid-April and continued with short interruptions due to precipitation. Pre-irrigation was required for most irrigated corn in the Panhandle for emergence due to lack of rainfall throughout the winter and early spring. Temperatures during the early season (May and June) were at or above long-term means, but temperatures were below average for July and August statewide (Figure 1). These cooler temperatures allowed for excellent grain fill conditions for the longer maturity hybrids planted in the body of the state. For the panhandle region the cooler temperatures allowed for excellent pollination for corn planted in May. These conditions led to some of the highest yields ever for producers with high irrigation capacities. Yields of 290 bu/ac and higher were reported by producers. Yields for rain-fed corn in the body of the state were determined by location and hybrid maturity. East of a line from roughly Enid to Lawton yields were significantly higher due to higher rainfall. From February through May, for instance, Newkirk received 4.26 inches more precipitation than Cherokee, and Apache received 9.5 inches more than Tipton.

The higher rainfall increased soil moisture which accounted for higher yields east of the line. Although higher yields were obtained they were somewhat offset by instances of aflatoxin reported in north central Oklahoma. There were severe price reductions for grain with aflatoxin, with discounts of two dollars/bushel reported. Significant rainfall was reported at most

locations in July, with some areas of the state receiving 10 inches for the month. This along with the cooler temperatures, increased yields for the longer season hybrids in the trials at Enid and Ponca City. There was no significant insect or disease pressures observed at any location in 2013. The trial at Cherokee was planted and harvested, but had some significant deer injury, so the results are not posted.

Results

Grain yield, test weight, harvest moisture, and plant populations for are presented in Tables 2 through 6. 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, Camron Nisly, Cori Woelk, and Cameron Murley. Their efforts are greatly appreciated.

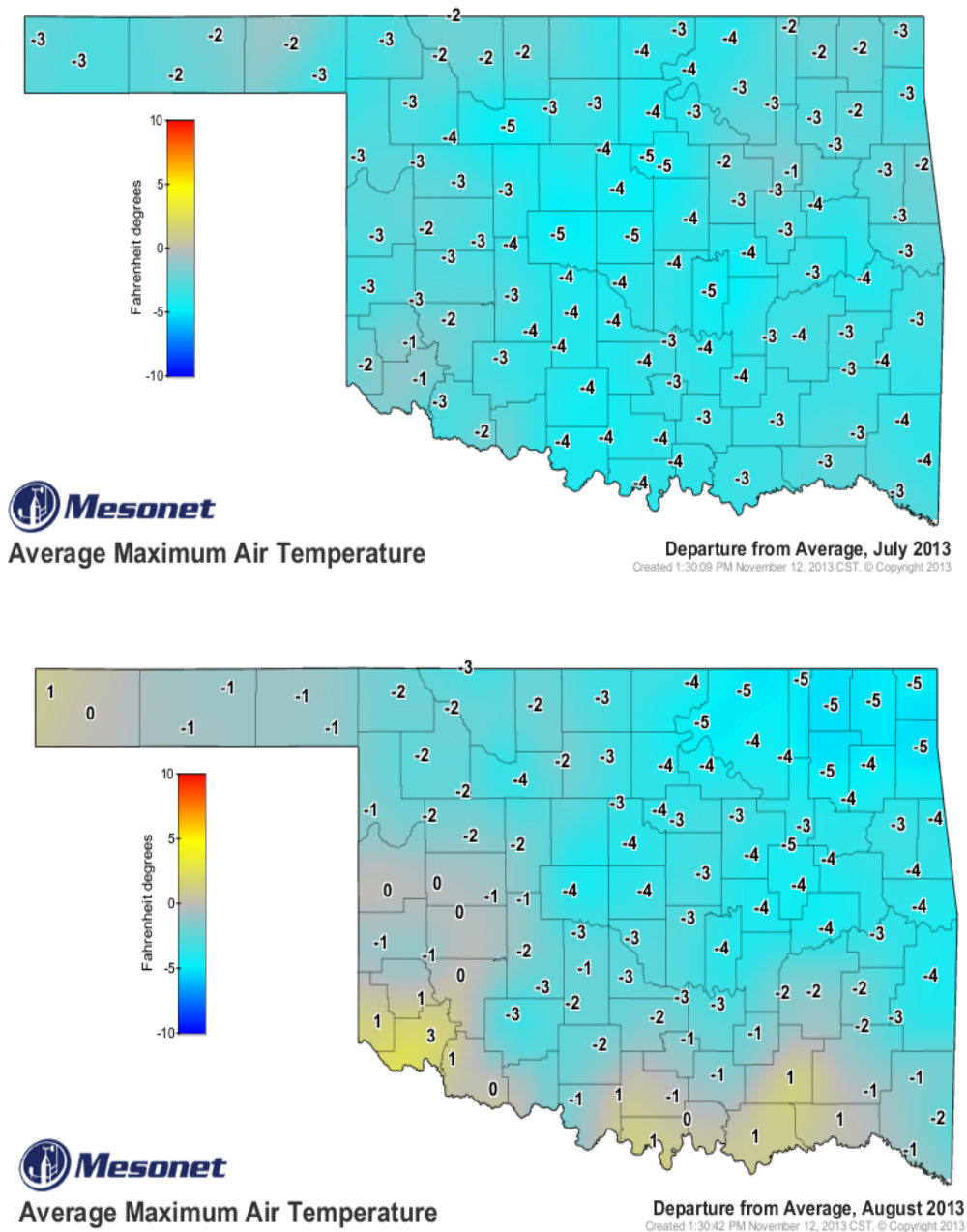


Figure 1. Departure from the average temperature for July and August 2013.

Table 1. Characteristics of Corn Hybrids in Oklahoma Corn Performance Trials, 2013.

Company Brand Name	Hybrid	Plant Characteristics*				Maturity Days	Trial Locations
		SV	SS	SG	EP		
Terral Seed, Inc	Rev® 17HR73™	NA	NA	NA	NA	107	All
Terral Seed, Inc	Rev® 18BHR84™	NA	NA	NA	NA	108	All
Terral Seed, Inc	Rev® 22BHR43™	NA	NA	NA	NA	112	All
Terral Seed, Inc	Rev® 28HR20™	7	7	7	MH	118	All
Terral Seed, Inc	Rev® 22BHR21™	NA	NA	NA	NA	112	All
Terral Seed, Inc	Rev® 28R10™	7	7	7	MH	118	All
Terral Seed, Inc	Rev® 22BHR54™	NA	NA	NA	NA	112	All
Terral Seed, Inc	Rev® 22BHR50™	3	3	3	MH	116	All
Terral Seed, Inc	Rev® 25BHR44™	NA	NA	NA	NA	115	All
Terral Seed, Inc	Rev® 27HR83™	NA	NA	NA	NA	117	All
Terral Seed, Inc	Rev® 24BHR93™	NA	NA	NA	NA	114	All
Triumph Seed Co. Inc.	1217S	2	3	3	M	112	All
Triumph Seed Co. Inc.	1157S	2	4	3	M	111	All
Triumph Seed Co. Inc.	1725H	3	2	2	MH	117	Pan. Only
Triumph Seed Co. Inc.	1375S	NA	NA	NA	M	113	Pan. Only
Triumph Seed Co. Inc.	7514S	3	3	3	M	114	Pan. Only
Triumph Seed Co. Inc.	1801H	2	2	2	H	118	Pan. Only
Triumph Seed Co. Inc.	1366S	3	3	3	M	113	Pan. Only
Triumph Seed Co. Inc.	1358S	2	3	2	H	113	Pan. Only
Triumph Seed Co. Inc.	1329S	3	3	3	M	113	Pan. Only
Terral Seed, Inc	Rev® 24R60™	7	6	7	M	116	All
Hoegemeyer	8389 HXT/LL/RR	5	4	3	H	114	Pan. Only
Hoegemeyer	1286YHR Aquamax	5	7	NA	MH	114	Pan. Only

* 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 NA: Not available at this time

Trial locations: All; all trial locations, Pan.only; Panhandle trials only; NC only; North Central locations only

Table 2. Grain Yield and Harvest Parameters for the Garfield county location (Enid), Oklahoma Corn Performance Trials, 2013.

Company Brand Name	Hybrid	Grain yield bu/ac		Test weight lb/bu		Harvest Moisture %	Population Plant plants/ac
		2013	2-year	2013	2-year		
Terral Seed, Inc	Rev® 22BHR43™	124	111	59.3	56.5	13.8	24,900
Triumph Seed Co. Inc.	1217S	116	109	56.9	52.8	13.5	26,400
Triumph Seed Co. Inc.	1157S	119	108	55.6	52.1	13.2	23,500
Hoegemeyer	7644 Hx/LL/RR	110	101	55.5	52.6	13.0	26,400
Terral Seed, Inc	Rev® 24R60™	97	94	57.4	53.6	14.0	22,800
Hoegemeyer	7876 Hx/LL/RR/CB	92	93	54.1	52.8	12.7	26,200
Terral Seed, Inc	Rev® 27HR83™	95	88	56.6	53.8	13.7	23,600
Terral Seed, Inc	Rev® 24BHR93™	94	88	56.9	53.9	14.3	23,100
Terral Seed, Inc	Rev® 28R10™	68	73	57.3	54.7	14.5	24,900
Terral Seed, Inc	Rev® 28HR20™	58	66	56.4	54.0	13.8	24,400
Terral Seed, Inc	Rev® 22BHR50™	50	65	55.9	53.5	13.8	25,600
Hoegemeyer	8066	140	-----	57.2	-----	13.3	27,700
Terral Seed, Inc	Rev® 18BHR84™	132	-----	56.7	-----	13.3	28,000
CPS Dyna-Gro	D 40VC09	127	-----	56.9	-----	13.2	25,800
Terral Seed, Inc	Rev® 22BHR54™	122	-----	56.1	-----	13.8	22,900
CPS Dyna-Gro	D 55VP77	122	-----	58.7	-----	13.9	24,600
CPS Dyna-Gro	D 37VP71	110	-----	57.5	-----	13.3	24,900
Terral Seed, Inc	Rev® 17HR73™	106	-----	55.0	-----	13.2	28,400
CPS Dyna-Gro	D 52VC91	105	-----	58.1	-----	14.1	24,600
Hoegemeyer	6852	96	-----	54.7	-----	12.6	23,500
Terral Seed, Inc	Rev® 22BHR21™	86	-----	58.9	-----	13.8	27,200
Terral Seed, Inc	Rev® 25BHR44™	80	-----	57.4	-----	14.1	24,600
	Mean	103	91	56.8	53.7	13.6	25,200
	CV %	17.8	18.2	2.0	2.7	2.2	10.1
	L.S.D.	26	16	1.6	1.4	0.4	NS

Cooperator: Ed Regier

Soil Series: Grant Silt Loam

Strip-Till: Following soybean in 2012

Soil Test: N: 107 P: 57 K: 432 pH: 5.8

Fertilizer: N: 30 lbs/ac + 5 gal/ac 10-34-0 in row with planter

Herbicide: 2 qt/ac Cinch ATZ Lite (Preemergence) + Post (32 oz Powermax + 4 oz Sterling Blue)

Target population: 25,000 plants/ac

Planting Date: March 28, 2013

Harvest Date: September 24, 2013

Monthly Rainfall (in.)	Apr.	May	June	July	Total
2013:	3.45	4.29	4.17	6.87	18.78
Long term mean:	2.99	4.86	4.26	2.89	15.00

Table 3. Grain Yield and Harvest Parameters for the Kay county location (Ponca City), Oklahoma Corn Performance Trials, 2013.

<i>Company Brand Name</i>	<i>Hybrid</i>	<i>Grain Yield bu/ac</i>	<i>Test Weight lb/bu</i>	<i>Harvest Moisture</i>	<i>Plant Population plants/ac</i>
Hoegemeyer	8066	129	57.8	13.7	22,200
Triumph Seed Co. Inc.	1157S	127	54.6	13.5	21,100
Terral Seed, Inc	Rev® 22BHR54™	126	56.0	15.3	21,100
Terral Seed, Inc	Rev® 18BHR84™	125	57.4	13.6	21,500
Terral Seed, Inc	Rev® 28HR20™	122	59.1	16.4	24,500
Triumph Seed Co. Inc.	1217S	120	56.8	13.8	23,800
Terral Seed, Inc	Rev® 22BHR43™	116	59.4	14.1	16,100
Terral Seed, Inc	Rev® 24BHR93™	116	57.9	15.1	21,500
Terral Seed, Inc	Rev® 22BHR50™	114	59.0	15.8	21,500
Terral Seed, Inc	Rev® 17HR73™	112	56.2	14.1	22,100
Terral Seed, Inc	Rev® 28R10™	109	58.3	16.6	19,700
Terral Seed, Inc	Rev® 27HR83™	107	57.7	15.5	24,000
CPS Dyna-Gro	D 55VP77	107	59.3	14.8	21,600
Terral Seed, Inc	Rev® 25BHR44™	103	59.3	15.2	23,400
Hoegemeyer	7644 Hx/LL/RR	103	56.9	13.1	21,600
Terral Seed, Inc	Rev® 22BHR21™	102	60.4	15.2	22,700
Terral Seed, Inc	Rev® 24R60™	102	58.2	14.8	19,200
CPS Dyna-Gro	D 40VC09	99	58.4	13.1	19,800
Hoegemeyer	6852	95	55.4	12.3	24,000
Hoegemeyer	7876 Hx/LL/RR/CB	94	58.0	13.7	19,000
CPS Dyna-Gro	D 37VP71	91	57.7	13.1	22,400
CPS Dyna-Gro	D 52VC91	82	58.8	14.6	19,000
	Mean	109	57.9	14.4	21,400
	CV %	15.3	1.3	2.9	9.7
	L.S.D.	28	1.3	0.7	3,400

Cooperator: Otto Farms

Soil Series: Kirkland Silt Loam

No-Till: Following soybean in 2012

Soil Test: N: 20 P: 20 K: 144 pH: 5.5

Fertilizer: N: 115 lbs/ac + 5 gal 10-34-0 in row with planter

Herbicide: 2 qt/ac Cinch ATZ Lite (Preemergence) + 1.5 qt Halex GT post

Target population: 25,000 plants/ac

Planting Date: March 28, 2013

Harvest Date: September 23, 2013

Monthly Rainfall (in.)	Apr.	May	June	July	Total
2013:	3.94	6.94	.27	5.08	18.23
Long term mean:	5.08	4.16	5.64	3.41	18.29

Table 4. Grain Yield and Harvest Parameters for the Joe Webb (Guymon) location, Oklahoma Corn Performance Trials, 2013.

Company Brand Name	Hybrid	Grain yield		Test weight		Harvest	Plant
		Bu/ac		lb/bu		Moisture	Population
		2013	2-year	2013	2-year	%	plants/ac
Triumph Seed Co. Inc.	1358S	263	276	55.8	53.6	13.5	32,600
Terral Seed, Inc	Rev [®] 28HR20 [™]	278	269	60.5	59.7	13.0	33,400
Triumph Seed Co. Inc.	1725H	264	264	57.8	56.0	15.1	32,000
Terral Seed, Inc	Rev [®] 27HR83 [™]	246	256	60.3	59.9	12.4	31,600
Terral Seed, Inc	Rev [®] 22BHR50 [™]	289	255	61.5	60.4	14.1	29,400
Triumph Seed Co. Inc.	1801H	244	254	56.7	55.1	15.7	35,300
Triumph Seed Co. Inc.	1217S	263	248	59.3	58.5	11.6	34,800
Terral Seed, Inc	Rev [®] 24BHR93 [™]	234	244	59.8	59.3	12.2	31,400
Terral Seed, Inc	Rev [®] 22BHR43 [™]	228	236	61.3	61.2	11.9	30,800
Terral Seed, Inc	Rev [®] 24R60 [™]	216	228	58.9	59.0	12.8	32,000
Triumph Seed Co. Inc.	1329S	195	221	58.2	56.5	13.5	30,800
Triumph Seed Co. Inc.	1366S	212	221	58.3	57.7	12.4	32,100
Terral Seed, Inc	Rev [®] 28R10 [™]	236	220	60.7	60.1	13.0	32,700
Triumph Seed Co. Inc.	7514S	185	213	58.5	57.5	14.9	28,500
Triumph Seed Co. Inc.	1157S	207	208	57.4	56.9	11.3	32,000
Terral Seed, Inc	Rev [®] 25BHR44 [™]	262	-----	61.1	-----	12.5	33,200
Hoegemeyer	8389 HXT/LL/RR	253	-----	60.9	-----	14.0	32,800
Terral Seed, Inc	Rev [®] 22BHR21 [™]	245	-----	61.6	-----	12.0	33,900
Triumph Seed Co. Inc.	1375S	235	-----	59.3	-----	11.8	33,700
Terral Seed, Inc	Rev [®] 22BHR54 [™]	228	-----	58.4	-----	12.1	32,900
Hoegemeyer	1286YHR Aquamax	227	-----	57.6	-----	13.1	32,800
Terral Seed, Inc	Rev [®] 17HR73 [™]	209	-----	57.3	-----	12.2	33,400
Terral Seed, Inc	Rev [®] 18BHR84 [™]	203	-----	59.4	-----	12.1	33,100
Mean		236	241	59.2	58.1	12.9	32,400
CV %		8.2	11.1	1.1	1.6	3.2	7.9
L.S.D.		27	27	0.9	0.9	0.6	3,600

Cooperator: Joe Webb

Soil Series: Pullman Clay Loam

Strip-Till: Following wheat in 2012

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

Fertilizer: N: 225 lbs/ac, P: 40 lbs P2O5/ac

Herbicide: 5 oz/ac Balance Flex + 24 oz Traxion + 1 oz Distinct (Preemergence) and 28 oz RT3 + 2 oz Distinct POST

Target population: 32,000 plants/ac

Planting Date: April 15, 2013

Harvest Date: October 9, 2013

Monthly Rainfall (in.)	Apr.	May	June	July	Aug	Total
2013:	0.30	0.14	1.92	1.02	4.04	7.42
Long term mean:	1.33	3.25	2.86	2.58	2.28	12.30
Irrigation:	1.50	3.00	9.00	9.00	3.00	

Table 5. Grain Yield and Harvest Parameters for the OPREC location, Oklahoma Corn Performance Trials, 2013.

Company Brand Name	Hybrid	Grain yield		Test weight		Harvest Moisture %	Plant Population plants/ac
		Bu/ac		lb/bu			
		2013	2-year	2013	2-year		
Triumph Seed Co. Inc.	1217S	215	180	56.6	56.7	16.0	34,100
Terral Seed, Inc	Rev® 24BHR93™	210	176	57.6	57.7	17.0	32,800
Terral Seed, Inc	Rev® 22BHR50™	205	171	57.5	57.7	20.5	34,000
Triumph Seed Co. Inc.	1366S	221	171	55.4	55.0	17.4	31,900
Terral Seed, Inc	Rev® 27HR83™	193	167	57.5	58.4	17.2	31,500
Triumph Seed Co. Inc.	1157S	201	163	56.0	55.3	15.6	32,900
Triumph Seed Co. Inc.	1358S	205	163	54.4	53.8	17.4	34,500
Terral Seed, Inc	Rev® 22BHR43™	188	162	58.1	59.2	16.3	31,600
Triumph Seed Co. Inc.	7514S	215	157	56.0	55.7	17.4	29,700
Triumph Seed Co. Inc.	1725H	204	156	55.0	55.3	18.3	32,000
Terral Seed, Inc	Rev® 28HR20™	205	151	58.0	57.4	17.5	32,600
Triumph Seed Co. Inc.	1801H	209	149	53.3	54.0	20.7	33,200
Triumph Seed Co. Inc.	1329S	197	146	55.2	55.1	17.2	31,300
Terral Seed, Inc	Rev® 28R10™	150	130	57.9	57.7	16.7	33,400
Terral Seed, Inc	Rev® 24R60™	158	130	57.3	56.7	17.2	33,200
Triumph Seed Co. Inc.	1375S	210	-----	56.6	-----	17.0	33,100
Terral Seed, Inc	Rev® 18BHR84™	209	-----	56.6	-----	15.6	33,000
Terral Seed, Inc	Rev® 22BHR54™	207	-----	55.8	-----	16.8	31,300
Hoegemeyer	1286YHR Aquamax	203	-----	55.6	-----	17.1	32,200
Terral Seed, Inc	Rev® 25BHR44™	199	-----	58.6	-----	17.2	34,100
Hoegemeyer	8389 HXT/LL/RR	194	-----	57.8	-----	17.4	33,300
Terral Seed, Inc	Rev® 17HR73™	192	-----	56.5	-----	15.9	34,400
Terral Seed, Inc	Rev® 22BHR21™	188	-----	59.2	-----	16.8	33,700
	Mean	199	158	56.6	56.4	17.2	32,800
	CV %	7.6	12.8	0.8	1.6	6.5	6.3
	L.S.D.	21	20	0.6	0.9	1.6	NS

Table 6. OPREC Ensilage Yields for Panhandle Corn Performance Trial, 2013.

Company Brand Name	Hybrid	YIELD Tons/ac			Plant Population plants/ac	Harvest Moisture %
		2012	2-year	3-year		
Triumph Seed Co. Inc.	1157S	21.2	23.3	22.4	31,900	67
Triumph Seed Co. Inc.	1217S	22.8	21.3	20.7	34,600	68
Terral Seed, Inc	Rev [®] 28HR20 [™]	21.9	20.8	20.6	35,600	69
Triumph Seed Co. Inc.	7514S	23.2	22.2	20.5	30,900	69
Terral Seed, Inc	Rev [®] 28R10 [™]	23.7	21.5	19.9	33,200	68
Terral Seed, Inc	Rev [®] 24R60 [™]	23.5	21.4	19.8	32,500	68
Terral Seed, Inc	Rev [®] 22BHR50 [™]	25.3	21.7	19.7	34,300	68
Triumph Seed Co. Inc.	1725H	23.7	20.7	19.3	30,800	70
Terral Seed, Inc	Rev [®] 25BHR44 [™]	25.7	-----	-----	33,800	67
Triumph Seed Co. Inc.	1375S	24.8	-----	-----	34,800	68
Triumph Seed Co. Inc.	1366S	23.7	-----	-----	32,800	68
Terral Seed, Inc	Rev [®] 18BHR84 [™]	23.6	-----	-----	34,700	67
Triumph Seed Co. Inc.	1329S	23.4	-----	-----	33,700	68
Terral Seed, Inc	Rev [®] 24BHR93 [™]	23.3	-----	-----	33,500	69
Terral Seed, Inc	Rev [®] 22BHR21 [™]	22.6	-----	-----	35,000	67
Hoegemeyer	1286YHR Aquamax	22.1	-----	-----	32,700	67
Terral Seed, Inc	Rev [®] 22BHR43 [™]	22.0	-----	-----	30,500	64
Terral Seed, Inc	Rev [®] 22BHR54 [™]	21.9	-----	-----	32,700	67
Terral Seed, Inc	Rev [®] 27HR83 [™]	21.9	-----	-----	31,500	71
Triumph Seed Co. Inc.	1358S	21.8	-----	-----	34,100	72
Terral Seed, Inc	Rev [®] 17HR73 [™]	21.2	-----	-----	33,500	68
Triumph Seed Co. Inc.	1801H	21.2	-----	-----	33,700	72
Hoegemeyer	8389 HXT/LL/RR	21.2	-----	-----	34,800	67
	Mean	22.9	21.6	20.4	33,300	68
	CV %	10.2	11.8	11.7	4.9	1.7
	L.S.D.	NS	3.0	2.3	2,700	2

Cooperator: OPREC
 Strip-Till: Following wheat double crop sunflower in 2012
 Fertilizer: N: 225 lbs/ac, P: 50 lbs P2O5/ac, + 5 gal 10-34-0 in row with planter
 Herbicide: 2.0qt/ac Cinch ATZ Lite (Preemergence) + 1 oz/ac Balance pro
 Target population: 28,000 plants/ac for grain and 32,000 plants/ac for ensilage
 Planting Date: April 15, 2013
 Harvest Date: August 27, 2013

Soil Series: Gruver Clay Loam (formerly Richfield)
 Soil Test: N: 9 P: 9 K: 835 pH: 7.9

Monthly Rainfall (in.)	Apr.	May	June	July	Aug	Total
2013:	0.30	0.14	1.92	1.02	4.04	7.42
Long term mean:	1.33	3.25	2.86	2.58	2.28	12.30
Irrigation:	2.50	3.75	5.00	6.25	1.25	

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