

GRAIN SORGHUM PERFORMANCE TRIALS IN OKLAHOMA, 2012

PRODUCTION TECHNOLOGY CROPS

OKLAHOMA COOPERATIVE EXTENSION SERVICE
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Rick Kochenower

Area Research and Extension Specialist
Plant and Soil Sciences Department

Roger Gribble

Area Agronomist NW
Oklahoma Cooperative Extension Service

TRIAL OBJECTIVES AND PROCEDURES

Each year performance trials for hybrid grain sorghum are conducted by the Oklahoma Cooperative Extension Service. These trials provide producers, extension educators, industry representatives, and researchers with information for hybrid grain sorghums marketed in Oklahoma.

Performance trials are conducted at eleven locations in Oklahoma: Apache, Alva, Blackwell, Cherokee, Enid, Goodwell, Homestead, Keyes, Gate, Seiling, and Tipton. All sites are dry-land with the exception of Goodwell, which received limited irrigation. The Cherokee, Homestead, and Gate locations are uniquely designed to evaluate certain hybrids (generally early and medium maturity) for planting in late April. In 2012 trials were to be continued at Alva, Enid and Seiling to evaluate hybrids for use as a double crop, however only Enid was planted. The Enid trial was not harvested due to drought.

Grain sorghum hybrids entered (Table 1) were assigned by companies to their respective maturity groups (early, medium, and late) and trial locations; therefore, all hybrids were not entered at all locations. Hybrids tested at the Cherokee, Homestead, Enid, Alva, and Gate locations were determined by Oklahoma State University. Companies submitted all hybrid characteristics presented in Table 1. This information was not determined or verified by Oklahoma State University. Company participation was voluntary, and some hybrids marketed in Oklahoma were not included in the test. Each maturity group was tested in a randomized complete block design with four replications.

Plots were two 30-inch rows by 25 feet for the body of the state and the limited irrigated trials. Plots were trimmed to 20 feet prior to harvest. Dry-land trials in the panhandle were 35 feet and trimmed to 30 feet for harvest. Tractor powered cone planters were used to plant all trials with seeding rates adjusted for trial location. Trials were harvested with a Kincaid model, 8XP plot combine.

Highlights

The highlight in 2012 or lowlight depending on how you look at it was drought which affected yields and test weights for most locations. In spite of the drought the Apache and Keyes locations had higher than expected yields. Neither the Gate location nor any of the double crop trials were harvested. The OPREC dry-land location was harvested but data was too variable to report. The full season results from Keyes and Tipton are also not reported.

Target populations, cooperating producers, fertilization, cultural practices, soil series, and herbicide use on all trials are listed individually in the results tables. Rainfall data from the nearest Mesonet site are also listed. Some trials are long distances from the nearest Mesonet site; therefore rainfall could be greater or less than reported.

GROWING CONDITIONS

Due to excellent soil moisture for planting, stand establishment was excellent at all locations. The double crop trial at Enid was planted into adequate moisture, but never received rainfall after emergence. The Alva and Seiling locations were never planted. For sorghum planted in April, plant available moisture was adequate with most locations having more than 5 inches of available water (Fig. 1). For grain sorghum planted in late May or early June, again there was 5 inches of plant available or water to begin the growing season (Fig. 2). For locations planted in April rainfall for the critical growing months of May and June was below the long-term mean (data with results). Blackwell for example received only 22% of normal while Apache received 78% of normal. The yield difference between Apache and Blackwell locations was dramatically affected by the rainfall received in May and June. The highest dry-land yield in 2012 was at Apache with 135 bu/ac. July rainfall was also below the long-term mean and was expressed by the low test weight observed at most locations. Grain marketing was a challenge for some producers due to lighter than normal test weights. Dry-land sorghum in the panhandle had low yields except in isolated locations. The Keyes trial was an area that received more rainfall than other areas of the panhandle.

RESULTS

Grain yields are reported in bushel per acre of threshed grain, adjusted to a moisture content of 14.0% (Table 2-8). Test weight, plant population, and the number of heads per acre at harvest are reported.

Bird damage and lodging are also reported when present at a location. Different plant populations at each location prevent accurate comparison between locations. Also comparisons across maturity groups were not conducted. Producers should note that late

maturing hybrids will generally yield more than early and medium maturity hybrids. However, the availability of moisture at critical crop development periods often influences yield more than the yield differences associated with maturity groups.

When choosing a maturity group, the type of cropping system, planting date, planting rate and potential moisture should be taken into consideration. For more information consult **Fact Sheet No. 2034 Grain Sorghum Planting Rates and Dates**, and **Fact Sheet No. 2113 Grain Sorghum Production Calendar**.

Least Significant Difference (L.S.D.) is a statistical test of yield differences and is shown at the bottom of each table. Unless two hybrids differ by at least the L.S.D. shown, little confidence can be placed in one hybrid being superior to another and the difference is probably not real.

The coefficient of variation (C.V.) is provided as an estimate of the precision of the data with respect to the mean for that location and maturity group. To provide some indication of yield stability, 2-year and 3-year means for yield and test weight are provided where trials have been conducted for more than one year with more than three entries per maturity group. Producers interested in comparing hybrids for consistency of yield in a specific area 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, Rocky Thacker, Jake Baker, Jeff Bedwell, Jimmy Rhodes, Tommy Puffinbarger, Cori Woelk, Cameron Murley, Jacob Anderson, and Logan Bechtel. Their efforts are greatly appreciated. Also would like to thank the Oklahoma Grain Sorghum Commission and The United Sorghum Checkoff Program for their financial support.

Figure 1. Average inches of plant available water in soil at 32 inches of depth for Oklahoma in the month of April.

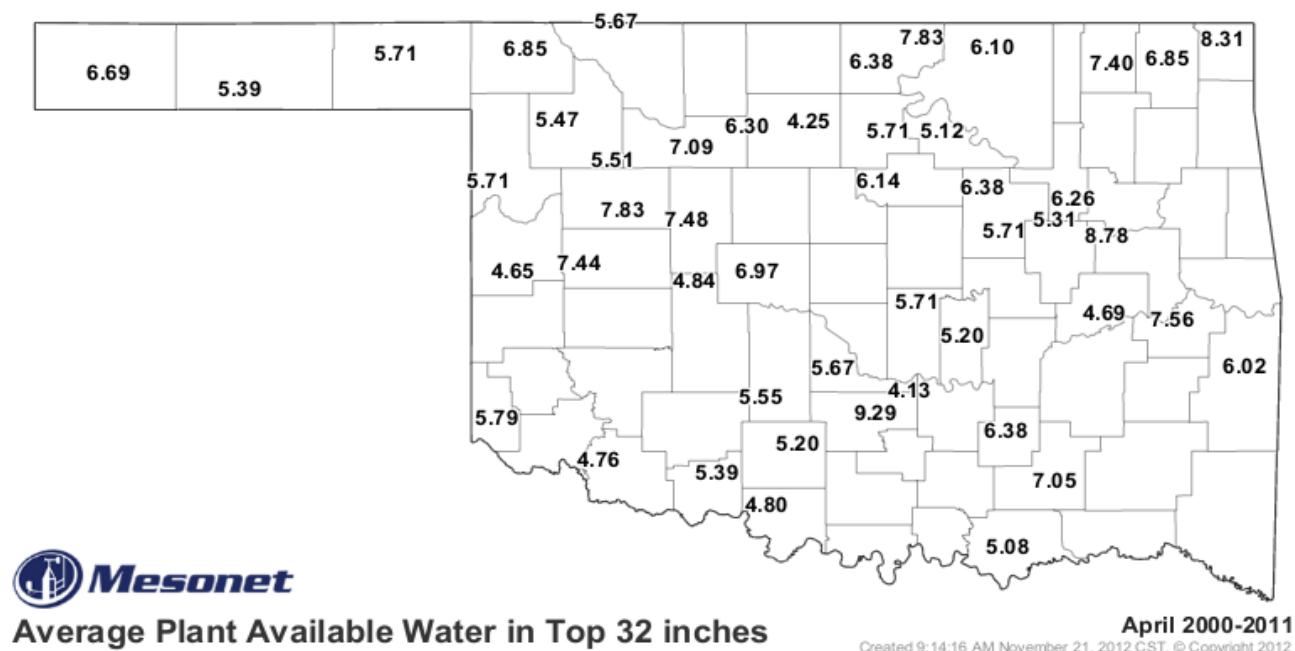


Figure 2. Average inches of plant available water in soil at 32 inches of depth for Oklahoma in the month of June.

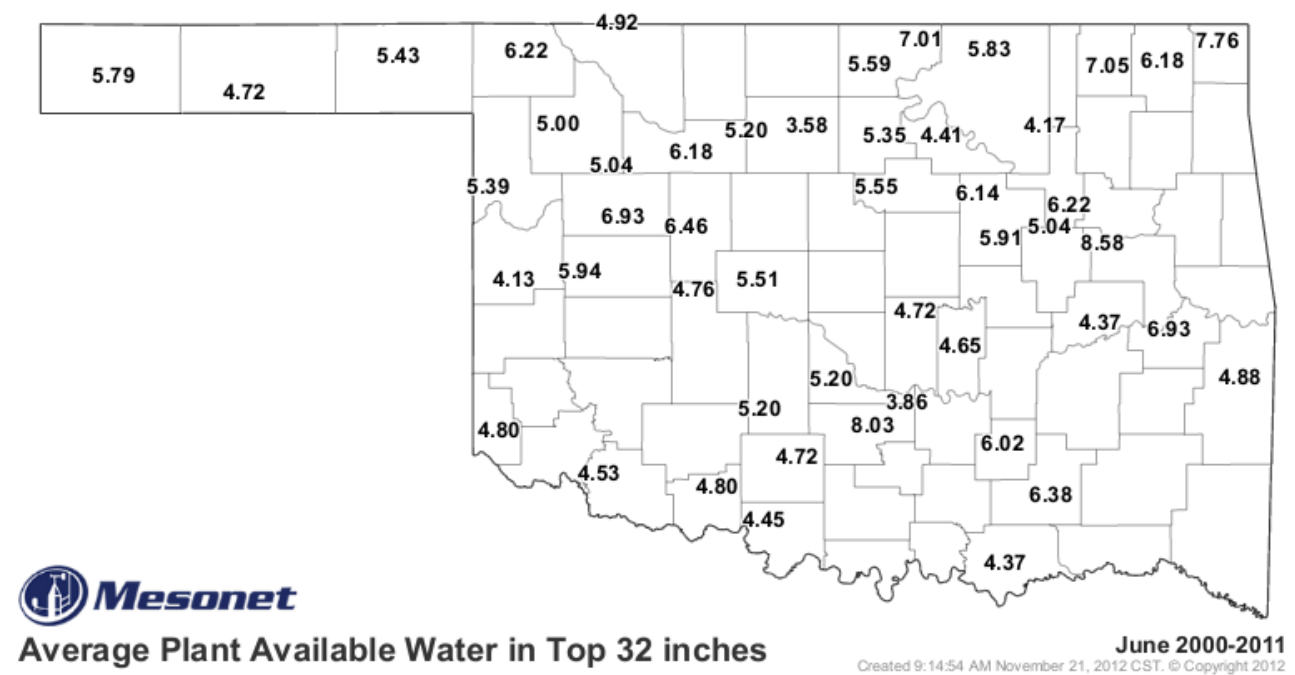


Table 1. Seed source and hybrid characteristics of grain sorghums in the Oklahoma Grain Sorghum Performance Trials, 2012. All hybrids are susceptible to birds and are single cross.

Company Brand Name	Hybrid	Seed Color	Endo- sperm	Days to Mid- bloom	Greenbug Resistance	Trial Location
less than 60 days to mid-bloom (early)/61 to 69 days to mid-bloom (medium)						
DeKalb	DKS 28-05	Bz	HY	58	----	1
DeKalb	DKS 37-07	Bz	HY	60	C,E,I	1
DeKalb	DKS 44-20	BZ	HY	67	NA	1
Sorghum Partners LLC	KS 585	Bz	HY	67	C, E	1
Sorghum Partners LLC	NK5418	Bz	HY	67	C,E	1
Pioneer Hi-Bred Int.	85G01	R	W	69	----	1
Pioneer Hi-Bred Int.	85G03	R	W	69	----	1
Pioneer Hi-Bred Int.	86G32	R	W	65	----	1
Johnston Seed Co.	JS 222	Bz	Hy	68	C, E	1
Johnston Seed Co.	JS 219	R	W	69	----	1
Johnston Seed Co.	JS - 056	R	N	65	C	1
Pioneer Hi-Bred Int.	87P06	R	W	63	----	1
Hoegemeyer	6056	R		66	C	1
Hoegemeyer	6037	R		62		1
Hoegemeyer	EXP 6128					1
Hoegemeyer	671	Cr				1
Fontanelle Hybrids	G 6192	Bz		69	----	4
Fontanelle Hybrids	GE 5901	Bz		66	----	4
Full days or greater to mid-bloom						
Pioneer Hi-Bred Int.	84P80	R	W	70	----	4
DeKalb	DKS 49-45	Bz	Hy	70	E,I	1
DEKALB	DKS 53-67	Bz	HY	71	C,E,I	4
Sorghum Partners LLC	K73-J6	Bz	Hy	73	C,E	1
Pioneer Hi-Bred Int.	84G62	Bz	Y	72	----	4
Pioneer Hi-Bred Int.	85Y40	W	Y	70	----	1
Triumph Seed	TRX85131	R	Hy	72	E	1
Triumph Seed	4941	Bz		72		1
Triumph Seed	4951	Bz		74		1
Gayland Ward Seed Co.	GW 9417	R	Hy	75	C,E	1
Gayland Ward Seed Co.	GW 9320	R	Hy	79	C,E	4

Trial locations: 1 – all; 2 – panhandle only; 3 – (Altus, Tipton, Blackwell); 4 – irrigated only (OPREC)

Seed Color: Br – Brown; W – White; Y – Yellow; Bz – Bronze; R – Red; C – Cream

Endosperm: HW – heterowaxy; W – waxy; HY – Heteroyellow; Y – Yellow; N – Non-waxy

Greenbug Resistance: Biotype hybrid is resistance too

Table 2. Results from Apache grain sorghum performance trial, 2012.

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Plant Population plants/ac	Head Population heads/plant
Early and medium						
Pioneer Hi-Bred Int.	86G32	135	54.9	9.9	41,500	1.68
Pioneer Hi-Bred Int.	85G03	127	55.9	11.6	43,200	1.59
DeKalb	DKS 44-20	126	56.9	10.6	42,900	1.41
Pioneer Hi-Bred Int.	85G01	126	57.1	11.7	39,500	1.33
DeKalb	DKS 28-05	124	55.8	9.6	42,300	1.77
Sorghum Partners LLC	KS 585	122	59.7	10.8	40,800	1.60
Pioneer Hi-Bred Int.	87P06	121	56.2	9.7	43,200	1.66
Hoegemeyer	EXP 6128	121	56.4	10.3	36,600	1.76
DeKalb	DKS 37-07	118	58.2	11.0	37,800	1.53
Johnston Seed Co.	JS 219	118	57.0	13.6	44,000	1.24
Hoegemeyer	6056	116	55.7	11.4	43,200	1.36
Sorghum Partners LLC	NK5418	116	56.1	10.1	43,500	1.67
Johnston Seed Co.	JS - 056	110	54.2	10.4	40,800	1.49
Hoegemeyer	6037	110	56.5	10.4	39,400	1.53
Johnston Seed Co.	JS 222	108	55.5	12.0	38,900	1.23
Hoegemeyer	671	103	56.3	10.3	41,800	1.43
	Mean	119	56.4	10.8	41,200	1.52
	CV %	7.9	2.2	7.2	9.2	12.8
	L.S.D.	13	1.7	1.1	NS	0.27

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Plant Population plants/ac	Head Population heads/plant
Full						
Pioneer Hi-Bred Int.	85Y40	119	56.0	10.1	37,100	1.7
Gayland Ward Seed Co.	GW 9417	115	55.8	11.1	35,000	1.5
DeKalb	DKS 49-45	109	55.8	9.9	35,000	1.5
Sorghum Partners LLC	K73-J6	107	55.0	11.8	35,500	1.6
Triumph Seed	TRX85131	105	54.5	12.0	39,900	1.3
Triumph Seed	4941	104	54.0	10.8	36,600	1.4
Triumph Seed	4951	95	52.0	9.8	39,200	1.2
	Mean	108	54.7	10.8	36,900	1.5
	CV %	7.9	1.0	11.8	13.9	14.4
	L.S.D.	13	0.8	NS	NS	NS

Cooperator: Alan Mindemann
 No-till following wheat in 2011
 Fertilizer: N: 110 lbs N + 5 gal/ac 10-34-0 with planter
 Seeding rate 56,000 seeds/ac
 Planting Date: April 24, 2012

Soil Series: Hollister Silt Loam
 Soil Test: N: 10 P: 38 K: 188 pH: 5.2
 Herbicide: Cinch ATZ Lite 2 qts/ac (Preemergence)
 Target Population: 45,000 plants/ac
 Harvest Date: August 14, 2012

Monthly Rainfall (in.)	April	May	June	July	Total
2012:	3.15	2.17	4.57	0.15	10.04
Long-term mean:	2.99	4.79	3.83	2.23	13.84

Table 3. Results from Blackwell grain sorghum performance trial, 2012.

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Plant Population plants/ac	Head Population heads/plant	Lodging
Early and medium							
DeKalb	DKS 28-05	46	51.0	9.6	39,900	1.27	0
DeKalb	DKS 44-20	46	52.8	11.3	40,400	1.14	0
Pioneer Hi-Bred Int.	87P06	43	54.2	10.8	39,100	1.17	10
Sorghum Partners LLC	KS 585	42	57.1	11.1	38,200	1.07	0
Pioneer Hi-Bred Int.	86G32	41	52.8	10.9	39,700	1.10	10
Hoegemeyer	6037	40	54.3	11.2	38,800	1.09	0
Sorghum Partners LLC	NK5418	39	53.4	11.1	37,200	1.20	0
DeKalb	DKS 37-07	38	53.5	10.6	42,100	1.03	0
Pioneer Hi-Bred Int.	85G01	33	54.7	12.0	38,100	0.88	0
Hoegemeyer	6056	33	53.1	10.9	41,400	0.97	0
Hoegemeyer	EXP 6128	33	54.4	17.1	39,500	0.90	12
Pioneer Hi-Bred Int.	85G03	29	50.8	17.1	38,000	1.03	0
Johnston Seed Co.	JS - 056	29	52.8	14.2	37,800	0.83	0
Johnston Seed Co.	JS 222	27	53.0	12.1	38,000	0.83	0
Hoegemeyer	671	24	52.2	11.3	40,700	0.76	0
Johnston Seed Co.	JS 219	17	52.5	13.7	43,500	0.55	0
Mean		35	53.3	12.2	39,500	0.99	-----
CV %		13.4	2.3	11.0	12.3	12.20	-----
L.S.D.		7	1.8	1.9	NS	0.17	-----

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Plant Population plants/ac	Head Population heads/plant
Full						
Pioneer Hi-Bred Int.	85Y40	42	52.7	13.2	43,300	0.92
DeKalb	DKS 49-45	41	51.0	13.6	35,600	1.04
Triumph Seed	4941	22	50.2	15.1	21,900	1.09
Sorghum Partners LLC	K73-J6	22	59.6	20.6	27,900	0.92
Gayland Ward Seed Co.	GW 9417	17	54.2	15.0	30,400	0.65
Triumph Seed	4951	16	49.8	14.4	30,300	0.59
Triumph Seed	TRX85131	11	51.4	13.5	38,100	0.42
Mean		24.4	51.3	15.1	32,500	0.8
CV %		22.4	3.0	15.6	15	18.9
L.S.D.		8	2.3	3.5	7,200	0.23

Cooperator: Bill and Louise Rigdon

No-till following soybean in 2011

Fertilizer: N: 110 lbs N + 5 gal/ac 10-34-0 with planter

Seeding rate 56,000 seeds/ac

Planting Date: April 19, 2012

Soil Series: Bethany Silt Loam

Soil Test: N: 13 P: 25 K: 428 pH: 6.0

Herbicide: Cinch ATZ Lite 2 qts/ac (Preemergence)

Target Population: 45,000 plants/ac

Harvest Date: August 16, 2012

Monthly Rainfall (in.)	April	May	June	July	Total
2012:	12.61	0.64	1.38	0.25	14.88
Long-term mean:	3.28	5.23	4.05	2.68	15.24

Table 4. Results from Cherokee grain sorghum performance trial, 2012.

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Plant Population plants/ac	Head Population heads/plant	Lodging
Hoegemeyer	6037	39	51.8	11.6	40,600	1.29	10
DeKalb	DKS 28-05	38	47.2	9.8	49,100	1.28	15
Pioneer Hi-Bred Int.	85Y40	38	50.5	12.0	46,600	1.19	10
Pioneer Hi-Bred Int.	86G32	36	50.3	11.8	45,200	1.27	10
DeKalb	DKS 37-07	34	50.8	11.3	47,900	1.20	5
Hoegemeyer	6056	34	50.5	13.9	46,100	1.16	0
Sorghum Partners LLC	NK5418	34	51.2	11.1	43,000	1.31	15
Johnston Seed Co.	JS - 056	33	50.5	13.3	41,800	1.20	0
Pioneer Hi-Bred Int.	85G03	32	49.7	13.7	45,700	1.24	15
Sorghum Partners LLC	KS 585	32	54.5	10.6	37,600	1.44	5
DeKalb	DKS 44-20	31	50.3	10.9	50,700	1.15	0
Gayland Ward Seed Co.	GW 9417	30	18.8	15.0	40,900	1.11	0
Johnston Seed Co.	JS 222	29	48.7	12.9	40,900	1.18	0
Triumph Seed	4941	25	47.5	12.9	32,500	1.44	5
	Mean	33	50.1	12.2	43,500	1.25	----
	CV %	16.2	2.8	14.1	9.1	12.0	----
	L.S.D.	8	2	2.5	5,700	NS	----

Cooperator: Doug McMurtrey

No-till following wheat double crop soybean in 2011

Fertilizer: N: 110 lbs N + 5 gal/ac 10-34-0 with planter

Seeding rate 56,000 seeds/ac

Planting Date: April 19, 2012

Soil Series: Pond Creek Silt Loam

Soil Test: N: 22 P: 153 K: 630 pH: 5.8

Herbicide: Cinch ATZ Lite 2 qts/ac (Preemergence)

Target Population: 45,000 plants/ac

Harvest Date: August 16, 2012

Monthly Rainfall (in.)	April	May	June	July	Total
2012:	2.88	0.96	2.18	0.65	6.67
Long-term mean:	2.80	4.50	3.90	3.10	14.30

Table 5. Results from Homestead grain sorghum performance trial, 2012.

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Plant Population plants/ac	Head Population heads/plant	Lodging
Pioneer Hi-Bred Int.	86G32	71	49.2	9.5	45,200	1.59	0
Sorghum Partners LLC	KS 585	67	55.1	10.2	45,300	1.50	0
DeKalb	DKS 37-07	65	51.8	10.1	49,400	1.32	0
DeKalb	DKS 28-05	64	51.8	8.8	46,600	1.54	0
Pioneer Hi-Bred Int.	85G03	59	50.2	11.6	44,900	1.57	5
Johnston Seed Co.	JS - 056	58	50.9	12.2	44,600	1.46	0
Hoegemeyer	6056	58	50.7	10.7	46,400	1.22	5
DeKalb	DKS 44-20	57	51.4	9.6	47,200	1.25	8
Triumph Seed	4941	56	50.4	10.4	33,100	1.59	8
Hoegemeyer	6037	56	50.2	10.8	45,400	1.54	0
Pioneer Hi-Bred Int.	85Y40	53	46.6	10.9	44,500	1.45	5
Johnston Seed Co.	JS 222	53	49.1	10.2	42,600	1.44	0
Gayland Ward Seed Co.	GW 9417	50	52.6	11.5	43,000	1.36	10
Sorghum Partners LLC	NK5418	46	46.6	9.1	44,500	1.55	0
	Mean	58	50.5	10.4	44,500	1.45	----
	CV %	15.4	4.1	12.9	8.5	13.9	----
	L.S.D.	13	3	1.9	5,400	NS	----

Cooperator: Brook Strader
 Conventional tillage following grain sorghum in 2011
 Fertilizer: N: 130 lbs N + 5 gal/ac 10-34-0 with planter
 Seeding rate 56,000 seeds/ac
 Planting Date: April 20, 2012

Soil Series: Canadian Fine Sandy Loam
 Soil Test: N: 7 P: 40 K: 331 pH: 6.6
 Herbicide: Cinch ATZ Lite 2 qts/ac (Preemergence)
 Target Population: 45,000 plants/ac
 Harvest Date: August 17, 2012

Monthly Rainfall (in.)	April	May	June	July	Total
2012:	3.20	1.33	4.00	0.62	9.15
Long-term mean:	2.50	4.20	3.20	2.70	12.60

Table 6. Results from Keyes grain sorghum performance trial, 2012.

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Plant Population plants/ac	Head Population heads/plant
Early and medium						
DeKalb	DKS 28-05	68	53.6	9.0	30,100	1.19
Sorghum Partners LLC	NK5418	63	54.9	9.8	20,500	1.39
Pioneer Hi-Bred Int.	87P06	60	54.2	9.3	23,400	1.39
Pioneer Hi-Bred Int.	86G32	58	53.1	9.6	20,700	1.15
DeKalb	DKS 44-20	53	55.0	9.7	29,900	0.88
Hoegemeyer	6037	52	55.2	9.4	21,800	1.12
Hoegemeyer	EXP 6128	52	55.3	9.7	20,800	1.05
Hoegemeyer	6056	48	54.3	9.7	22,600	0.99
DeKalb	DKS 37-07	47	53.7	9.3	24,100	0.94
Sorghum Partners LLC	KS 585	44	54.9	9.5	22,700	1.1
Johnston Seed Co.	JS - 056	42	53.4	9.1	21,800	0.99
Pioneer Hi-Bred Int.	85G03	41	50.2	9.6	23,700	1.06
Johnston Seed Co.	JS 222	40	54.7	10.4	23,100	0.91
Johnston Seed Co.	JS 219	40	53.9	9.5	22,800	0.73
Pioneer Hi-Bred Int.	85G01	33	53.6	9.4	21,900	0.75
Hoegemeyer	671	24	53.3	9.4	21,900	0.69
	Mean	48	54.0	9.5	23,200	1.02
	CV %	20.2	4.9	6.1	7.4	14.8
	L.S.D.	13.8	NS	NS	2,400	0.22

Cooperator: Ken Rose

No-till following wheat in 2011

Fertilizer: N: 130 lbs N + 5 gal/ac 10-34-0 with planter

Seeding rate 31,000 seeds/ac

Planting Date: May 31, 2012

Soil Series: Richfield Loam

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

Herbicide: Cinch ATZ Lite 2 qts/ac (Preemergence)

Target Population: 25,000 plants/ac

Harvest Date: November 7, 2012

Monthly Rainfall (in.)	May	June	July	Aug	Sept	Total
2012:	1.66	2.33	0.94	0.57	1.79	7.29
Long-term mean:	2.76	2.92	2.85	2.55	1.97	13.05

Table 7. Results from OPREC limited irrigation grain sorghum performance trial, 2012.

Company Brand Name	Hybrid	Grain Yield bu/ac			Test weight lb/bu			Harvest Moisture	Plant Population plants/ac	Head Population heads/plant
		2012	2-year	3-year	2012	2-year	3-year			
		early/medium								
DeKalb	DKS 44-20	159	167	164	57.8	58.6	59.3	14.0	53,500	1.43
DeKalb	DKS 37-07	161	165	163	55.7	57.4	58.2	12.5	51,500	1.72
Pioneer Hi-Bred Int.	85G01	167	173	162	56.3	57.2	58.0	15.1	47,500	1.47
Sorghum Partners LLC	KS 585	161	168	160	59.3	58.5	59.1	13.6	47,300	1.59
Johnston Seed Co.	JS 222	156	159	158	55.9	57.0	57.9	15.9	48,100	1.35
DeKalb	DKS 28-05	164	159	155	57.0	56.2	56.4	14.1	41,500	1.71
Johnston Seed Co.	JS - 056	165	163	155	57.7	57.7	58.1	14.4	48,700	1.43
Sorghum Partners LLC	NK5418	140	161	155	55.5	56.5	57.1	12.8	47,900	1.60
Pioneer Hi-Bred Int.	86G32	171	156	150	56.1	56.1	56.8	12.9	53,700	1.52
Pioneer Hi-Bred Int.	87P06	140	134	130	56.7	56.8	57.1	12.8	46,600	1.75
Johnston Seed Co.	JS 219	170	161	----	56.3	56.7	----	20.4	46,900	1.43
Pioneer Hi-Bred Int.	85G03	175	----	----	57.4	----	----	16.6	51,300	1.61
Fontanelle Hybrids	G 6192	175	----	----	57.3	----	----	16.3	52,800	1.47
Fontanelle Hybrids	GE 5901	170	----	----	56.6	----	----	14.4	52,700	1.50
Hoegemeyer	6056	160	----	----	56.8	----	----	14.3	52,300	1.40
Hoegemeyer	671	158	----	----	56.7	----	----	14.3	47,300	1.55
Hoegemeyer	EXP 6128	153	----	----	57.3	----	----	14.8	50,500	1.46
Hoegemeyer	6037	150	----	----	57.0	----	----	12.9	48,700	1.52
	Mean	161	161	155	56.9	57.2	57.8	14.6	49,380	1.53
	CV %	6.6	8.7	8.0	1.9	1.8	1.8	5.7	10.5	13.40
	L.S.D.	15	14	10	1.6	1.1	0.8	1.2	NS	NS

Table 7. Continued

Company Brand Name	Hybrid	Grain Yield bu/ac			Test weight lb/bu			Harvest Moisture	Plant Population plants/ac	Head Population heads/plant
		2012	2-year	3-year	2012	2-year	3-year			
Full										
Pioneer Hi-Bred Int.	84G62	161	165	163	55.6	55.9	56.8	15.7	54,600	1.20
DeKalb	DKS 49-45	160	165	160	53.5	53.9	55.2	14.7	50,700	1.24
DEKALB	DKS 53-67	161	164	158	56.6	56.4	57.1	17.2	49,700	1.24
Pioneer Hi-Bred Int.	85Y40	157	162	157	57.4	57.9	58.3	15.5	49,300	1.25
Pioneer Hi-Bred Int.	84P80	174	177	----	56.2	56.4	----	16.6	49,500	1.33
Triumph Seed	TRX85131	158	159	----	54.6	55.5	----	18.0	52,200	1.26
Triumph Seed	4951	152	----	----	53.2	----	----	16.0	42,900	1.26
Triumph Seed	4941	151	----	----	55.7	----	----	14.7	46,000	1.31
Sorghum Partners LLC	K73-J6	142	----	----	55.1	----	----	15.8	40,700	1.51
Gayland Ward Seed Co.	GW 9320	139	----	----	54.6	----	----	19.3	41,100	1.31
Gayland Ward Seed Co.	GW 9417	123	----	----	54.9	----	----	16.9	43,200	1.05
	Mean	152	165	159	55.2	56.0	56.8	16.5	47,300	1.27
	CV %	8.4	6.4	6.8	1.4	1.2	1.6	7.1	8.0	15.50
	L.S.D.	18	11		1.1	0.7		1.7	5,500	NS

Cooperator: OPREC

Strip-till following wheat in 2011

Herbicide: Cinch ATZ Lite 2 qts/ac (Preemergence)

Seeding rate 64,500 seeds/ac

Planting Date: June 13, 2012

Soil Series: Gruver Clay Loam (formally Richfield)

Soil Test: N: 36 P: 7 K: 1,082 pH: 7.9

Fertilizer: N: 150 lbs N and 50 lbs P2O5 with strip-till + 5 gal/ac 10-34-0 with planter

Target Population: 50,000 plants/ac

Harvest Date: October 18, 2012

Monthly Rainfall (in.)	May	June	July	Aug	Sept	Total
Long-term mean:	3.25	2.86	2.58	2.28	1.77	12.74
2012:	0.88	2.33	1.95	0.85	2.66	8.67
Irrigation	1.25	2.50	3.75	2.50	1.25	11.25

Table 8. Results from Tipton grain sorghum performance trial, 2012.

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Plant Population plants/ac	Head Population heads/plant
Early and medium						
Pioneer Hi-Bred Int.	85G01	87	49.2	6.4	42,800	1.68
Hoegemeyer	6037	85	50.4	6.5	45,000	1.56
Pioneer Hi-Bred Int.	86G32	79	47.4	6.0	44,000	1.76
Pioneer Hi-Bred Int.	85G03	77	39.7	5.6	47,400	1.71
Hoegemeyer	EXP 6128	73	47.1	6.3	47,800	1.42
Sorghum Partners LLC	NK5418	71	43.7	5.0	42,300	1.83
Johnston Seed Co.	JS - 056	68	45.5	5.5	46,500	1.27
DeKalb	DKS 28-05	67	42.3	4.9	41,600	1.81
Pioneer Hi-Bred Int.	87P06	67	49.3	6.2	47,400	1.56
Johnston Seed Co.	JS 219	61	46.1	5.9	46,300	1.31
Hoegemeyer	6056	60	42.4	5.2	46,100	1.35
DeKalb	DKS 44-20	59	43.4	5.6	44,000	1.36
DeKalb	DKS 37-07	57	43.6	5.4	42,900	1.44
Johnston Seed Co.	JS 222	55	42.9	5.2	40,400	1.43
Sorghum Partners LLC	KS 585	53	46.0	5.3	41,400	1.56
Hoegemeyer	671	42	38.8	5.0	47,000	1.24
	Mean	66	44.9	5.6	44,500	1.52
	CV %	24.3	12.2	16.3	13.2	18.1
	L.S.D.	23	7.4	NS	NS	0.39

Cooperator: Southwest Research and Extension Center
 Conventional Tillage Practices: Sorghum-fallow-sorghum rotation
 Fertilizer: N: 92 lbs N + 5 gal/ac 10-34-0 with planter
 Seeding rate 56,000 seeds/ac
 Planting Date: April 13, 2012

Soil Series: Tipton Silt Loam
 Soil Test: N: 37 P: 104 K: 708 pH: 6.8
 Herbicide: Cinch ATZ Lite 2 qts/ac (Preemergence)
 Target Population: 45,000 plants/ac
 Harvest Date: July 30, 2012

Monthly Rainfall (in.)	April	May	June	July	Total
2012:	1.60	1.55	2.63	1.11	6.89
Long-term mean:	2.30	4.30	3.45	2.08	12.13