



# Current Report

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## Grain Sorghum Performance Trials in Oklahoma, 2013

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### 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 grain sorghums hybrids 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 trials are uniquely designed to evaluate certain hybrids (generally early and medium maturity) for planting in late April. Similar to previous years double crop trials were to be planted at Alva, Enid, and Seiling, but due to dry conditions Alva was not planted. Seiling was planted in marginal soil moisture and never emerged, therefore only Enid was harvested.

Grain sorghum hybrids entered (Table 1) were assigned by companies to their respective maturity groups (early less than 60 days to mid-bloom, medium 61 – 69 days to mid-bloom, and late 70 days and greater to mid-bloom) and trial locations; therefore, all hybrids were not entered at all locations. Hybrids tested at the Cherokee, Homestead, Enid, Alva, Seiling, 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

Strange weather led to varied results. Planting in May for the first time in last 15 years had the highest yields, due to high rainfall for most areas in July. Grain yield was higher east of a line from Enid to Lawton, with yield of over 150bu/ac reported by some producers and in the Blackwell trial. Double crop yield in the trials was excellent at Apache and Enid, but the trial at Seiling never emerged due to lack of rainfall. Producer reported yields in the 70 to 90 bu/ac range.

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 sites are also listed. Some trials are long distances from the nearest Mesonet site; therefore rainfall could be greater or less than reported.

### Growing Conditions

Soil moisture conditions were excellent for sorghum planted in April. Plant available water in the top 32 inches of soil was at or above the 10-year average for many locations (Figures 1 and 2). The April planted trial at Apache was abandoned due washed residue over the rows and herbicide moved into the seeding zone by a 4.3 inches of rainfall the night it was planted. The reduced stand was deemed inadequate and the trial was replaced with a double crop trial planted in June. Grain yields east of a line from Enid to Lawton were much higher than yields west of the line as demonstrated by yields for the Blackwell and Homestead locations. Much of the yield increase east of this boundary is explained by May rainfall. There was a 4.1 inch difference in May rainfall between Blackwell (6.2 inches) and Cherokee (2.1). Higher than normal rainfall for July (10 inches in some areas) and cooler temperatures delayed harvest and led to higher yields for May planted grain sorghum than April in some cases. This was the first time in

**Table 1. Seed source and hybrid characteristics of grain sorghums in the Oklahoma Grain Sorghum Performance Trials, 2013. All hybrids are susceptible to birds and are single cross.**

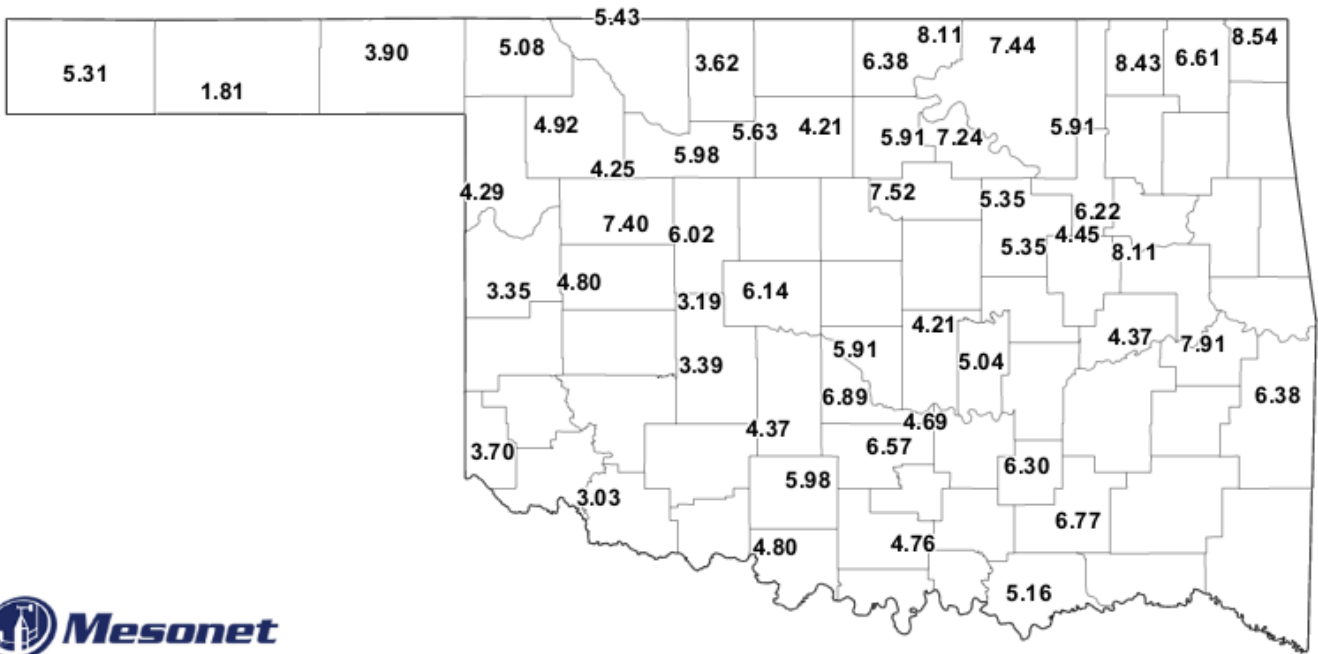
<i>Company Brand Name</i>	<i>Seed Hybrid</i>	<i>Color</i>	<i>Endosperm</i>	<i>Days to Mid-bloom</i>	<i>Greenbug Resistance</i>	<i>Trial Location</i>
<b>less than 60 days to mid-bloom (early)/61 to 69 days to mid-bloom (medium)</b>						
Sorghum Partners LLC	SP3425	Bz	HY	60	C,E	1
DeKalb Brand	DKS 28-05	Bz	HY	58	----	1
DeKalb Brand	DKS 37-07	Bz	HY	60	C,E,I	1
DeKalb Brand	DKS38-88	BZ	HY	63	I	1
Sorghum Partners LLC	KS 585	Bz	HY	67	C, E	1
Sorghum Partners LLC	NK5418	Bz	HY	67	C,E	1
Advanta US	AG 2102	R	NA	65-69	----	1
Advanta US	AG 2103	R	NA	64-68	----	1
Advanta US	AG 2104	R	NA	64-66	----	1
Advanta US	AG 3101	R	NA	67-70	----	1
Advanta US	AG 2115	R	NA	64-69	----	1
Advanta US	XG 1213	Bz	NA	62-64	----	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
Pioneer Hi-Bred Int.	87P06	R	W	63	----	1
Richardson Seeds Ltd.	92123	R	W	69	C,E	1
Hoegemeyer	6037	R	W	63	----	1
Hoegemeyer	6020	R	W	62	----	1
Hoegemeyer	6098	Bz	W	69	----	1
Hoegemeyer	6064	Bz	Y	66	----	1
Gayland Ward Seed Co.	EX9010	R	Hy	69	C	1
Gayland Ward Seed Co.	EX9059	R	HW	66	C	1
Gayland Ward Seed Co.	EX9058	R	HW	64	C	1
Fontanelle Hybrids	G 6192	Bz		69	----	4
<b>Full 70 days or greater to mid-bloom</b>						
Pioneer Hi-Bred Int.	84P80	R	W	70	----	4
DeKalb Brand	DKS 49-45	Bz	Hy	70	E,I	1
Hoegemeyer	7025	Bz	NA	72	----	1
Sorghum Partners LLC	NK7633	Bz	Hy	73	C	1
DeKalb Brand	DKS 53-67	Bz	HY	71	C,E,I	4
Sorghum Partners LLC	KS 735	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	W	72	E	1
Triumph Seed	4941	Bz	Hy	72	----	1
Triumph Seed	4951	Bz	Hy	74	----	1
Gayland Ward Seed Co.	GW 9417	R	Hy	75	C,E	1
Gayland Ward Seed Co.	EX9011	R	Hy	73	C	1
Gayland Ward Seed Co.	EX9021	Bz	HW	76	C	1
Gayland Ward Seed Co.	EX8017	R	HW	70	C	1
Gayland Ward Seed Co.	GW9480	R	HW	75	C,E	1
Gayland Ward Seed Co.	EX8015	Bz	HW	77	C,E	1
Gayland Ward Seed Co.	EX9061	R	HW	70	C	4
Richardson Seeds Ltd.	0413	R	HY	76	C,E	1
Richardson Seeds Ltd.	96173	R	W	75	C,E	1
Richardson Seeds Ltd.	06173	R	W	77	C,E	1
Richardson Seeds Ltd.	50113	W	W	77	C,E	1
Richardson Seeds Ltd.	68653	W	W	76	C,E	1

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

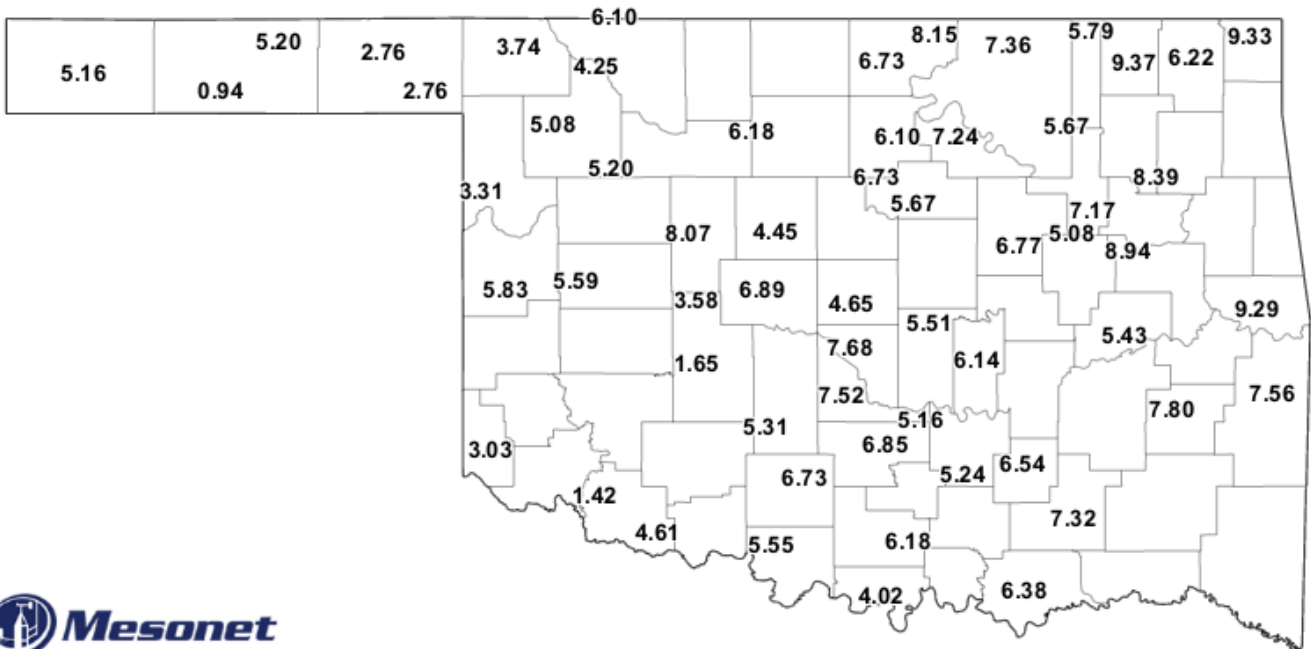


**Average Plant Available Water in Top 32 inches**

April 2003-2012

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Figure 1. Nine-year average inches of plant available water in soil at 32 inches of depth for Oklahoma in the month of April.



**Average Plant Available Water in Top 32 inches**

April 2013

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Figure 2. Inches of plant available water in soil at 32 inches of depth for Oklahoma in the month of April 2013.

the last 15 years for this to happen. Trials at Cherokee, Gate, and Tipton were abandoned due to lack of rainfall in May and June. The trial at Homestead was harvested but grain yields were significantly less than for Blackwell. The double crop trial at Seiling was planted into marginal moisture and never emerged therefore it was abandoned. The trial at Alva was never planted. In the Panhandle with reduced soil moisture most planting occurred in mid to late June after rainfall. Dry-land grain yields in the Panhandle were highly variable with yields ranging from the low teens to near 70 bu/ac. Cimarron County had hail-storms in August which coincided with flowering of many hybrids. This dramatically reduced yield of these hybrids.

## Results

Grain yields are reported in bushel per acre of threshed grain, adjusted to a moisture content of 14.0 percent (Tables 2 through 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. The availability of moisture at critical crop development periods, however 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 PSS-2034 *Grain Sorghum Planting Rates and Dates*, and Fact Sheet PSS-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, Camron Nisly, Jeff Bedwell, Jimmy Rhodes, Tommy Puffinbarger, Cori Woelk, 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.*

**Table 2. Results from Apache double crop grain sorghum performance trial, 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>	<i>Lodging %</i>
<b>Less than 70 days to mid-bloom</b>						
Pioneer Hi-Bred Int.	85G01	141	56.3	15.1	39,800	13
Advanta US	AG 3101	135	57.7	14.2	47,800	0
Advanta US	AG 2115	116	54.2	14.0	43,600	0
Pioneer Hi-Bred Int.	85G03	115	55.4	15.3	32,800	17
Sorghum Partners LLC	NK5418	111	54.1	15.2	42,100	0
Hoegemeyer	6098	110	57.1	15.3	37,500	0
DeKalb Brand	DKS38-88	108	55.3	14.4	35,700	0
Advanta US	AG 2102	106	51.7	13.0	37,300	0
Advanta US	XG 1213	103	54.7	14.1	28,500	0
DeKalb	DKS 28-05	102	52.2	11.4	39,800	0
Richardson Seeds Ltd.	92123	96	55.6	14.3	27,200	0
Advanta US	AG 2103	95	57.3	12.1	33,300	0
Advanta US	AG 2104	95	53.2	14.5	36,000	0
Hoegemeyer	6064	93	54.2	15.1	34,800	23
Pioneer Hi-Bred Int.	86G32	93	53.9	14.3	40,200	10
DeKalb	DKS 37-07	92	55.6	15.4	35,900	5
Gayland Ward Seed Co.	EX9010	86	53.2	15.5	38,300	27
Sorghum Partners LLC	KS 585	76	54.3	12.9	38,300	25
Gayland Ward Seed Co.	EX9059	76	52.4	14.5	37,800	0
Sorghum Partners LLC	SP3425	67	53.4	14.5	29,600	5
	Mean	101	54.6	1.4	36,800	-----
	CV %	16.0	2.8	7.2	11.7	-----
	L.S.D.	27	2.5	1.7	7,200	-----

**Greater than 70 days to mid-bloom**

Richardson Seeds Ltd.	06173	125	57.5	16.7	31,700	0
Richardson Seeds Ltd.	68653	122	55.9	14.8	34,700	0
Richardson Seeds Ltd.	96173	118	58.1	15.0	33,000	0
Pioneer Hi-Bred Int.	85Y40	104	57.4	14.2	27,400	17
DeKalb Brand	DKS 49-45	93	55.5	15.3	28,700	0
Gayland Ward Seed Co.	GW 9417	90	56.7	14.3	26,300	0
Sorghum Partners LLC	KS 735	88	54.4	13.1	29,900	10
Hoegemeyer	7025	87	55.5	15.5	32,700	0
Triumph Seed	4951	85	53.8	16.5	30,200	0
Triumph Seed	4941	85	54.6	14.8	33,800	13
Triumph Seed	TRX85131	83	54.6	16.6	35,300	0
Richardson Seeds Ltd.	0413	81	52.0	15.5	24,500	10
Richardson Seeds Ltd.	50113	71	57.1	18.0	34,400	7
Sorghum Partners LLC	NK7633	71	53.3	15.1	31,500	0
	Mean	93	55.5	15.5	31,000	-----
	CV %	21.0	2.1	11.3	18.4	-----
	L.S.D.	33	2.0	NS	9,600	-----

Cooperator: Alan Mindeman  
 No-till double crop following 58 bu/ac wheat  
 Fertilizer: N: 100 lbs N + 5 gal/ac 10-34-0 with planter  
 Seeding rate 56,000 seeds/ac  
 Planting Date: June 26, 2013

Soil Series: Port Silt Loam  
 Soil Test: N: NA P: NA K: NA pH: NA  
 Herbicide: Lumax EZ 2.7 qts/ac (Preemergence)  
 Target Population: 45,000 plants/ac  
 Harvest Date: November 14, 2013

Monthly Rainfall (in.)	June	July	Aug	Sept	Oct	Total
2013:	3.71	8.60	1.85	2.20	2.63	<b>18.99</b>
Long-term mean:	4.13	2.51	2.84	2.50	3.85	<b>15.83</b>

**Table 3. Results from Blackwell grain sorghum performance trial, 2013.**

Company Brand Name	Hybrid	Grain Yield bu/ac		Test weight lb/bu		Plant Harvest Moisture	Head Population plants/ac	Population heads/plant
		2013	2-year	2013	2-year			
<b>Less than 70 days to mid-bloom</b>								
DeKalb	DKS 37-07	120	79	57.3	55.4	13.4	35,100	1.00
Pioneer Hi-Bred Int.	86G32	112	77	56.5	54.7	13.6	24,700	2.01
Pioneer Hi-Bred Int.	85G03	125	77	59.3	55.1	16.5	18,200	2.57
DeKalb	DKS 28-05	102	74	52.7	51.9	12.4	33,400	2.09
Sorghum Partners LLC	NK5418	109	74	57.1	55.3	12.4	39,900	1.45
Sorghum Partners LLC	KS 585	104	73	58.3	57.7	13.2	26,800	1.95
Pioneer Hi-Bred Int.	85G01	113	73	57.9	56.3	16.5	22,800	1.73
Pioneer Hi-Bred Int.	87P06	98	70	56.4	55.3	12.3	33,500	1.60
Hoegemeyer	6037	95	67	56.6	55.5	13.2	26,600	1.79
Hoegemeyer	6098	144	----	59.3	----	13.9	30,300	1.58
Advanta US	AG 3101	136	----	60.4	----	14.8	38,700	1.26
Gayland Ward Seed Co.	EX9010	132	----	56.4	----	14.5	31,600	1.31
Advanta US	XG 1213	131	----	59.0	----	14.8	18,400	1.93
DeKalb Brand	DKS38-88	129	----	58.5	----	14.1	34,200	1.32
Advanta US	AG 2102	128	----	56.8	----	15.3	36,300	1.26
Gayland Ward Seed Co.	EX9058	114	----	57.0	----	15.8	29,500	1.72
Gayland Ward Seed Co.	EX9059	111	----	56.9	----	14.6	25,800	1.92
Hoegemeyer	6064	111	----	58.1	----	13.8	32,000	1.49
Advanta US	AG 2115	110	----	56.4	----	15.3	24,800	1.41
Advanta US	AG 2103	105	----	58.7	----	14.6	36,600	1.31
Advanta US	AG 2104	102	----	55.9	----	13.9	31,900	1.37
Hoegemeyer	6020	98	----	56.1	----	12.6	30,900	1.83
Sorghum Partners LLC	SP3425	93	----	56.8	----	12.5	27,400	1.96
	Mean	114	74	57.3	55.2	14.1	29,800	1.65
	CV %	8.6	13.7	1.3	2.8	7.4	13.2	14.70
	L.S.D.	14	10.0	1.0	1.5	1.5	5,600	0.34
<b>70 days and greater to mid-bloom</b>								
DeKalb Brand	DKS 49-45	133	87	57.7	54.4	14.5	22,100	1.58
Pioneer Hi-Bred Int.	85Y40	126	84	59.8	56.3	14.2	24,400	1.68
Triumph Seed	4941	132	77	57.5	53.9	14.5	21,800	2.00
Gayland Ward Seed Co.	GW 9417	135	76	59.4	56.8	14.5	30,700	1.40
Triumph Seed	TRX85131	131	71	57.2	54.3	14.3	32,500	1.45
Triumph Seed	4951	102	59	56.5	53.2	15.2	13,000	2.02
Richardson Seeds Ltd.	06173	167	----	57.0	----	16.7	25,500	1.70
Richardson Seeds Ltd.	68653	146	----	55.9	----	18.1	15,800	1.96
Hoegemeyer	7025	142	----	59.4	----	14.3	25,000	1.94
Gayland Ward Seed Co.	EX8015	134	----	58.2	----	15.3	28,600	1.45
Richardson Seeds Ltd.	96173	131	----	58.7	----	16.8	14,500	2.36
Sorghum Partners LLC	NK7633	128	----	57.5	----	14.7	29,000	1.43
Gayland Ward Seed Co.	EX9021	127	----	56.0	----	13.2	34,200	1.32
Gayland Ward Seed Co.	EX8017	126	----	58.5	----	16.0	27,600	1.34
Sorghum Partners LLC	KS 735	121	----	56.4	----	13.6	18,000	1.91
Gayland Ward Seed Co.	GW9480	119	----	59.5	----	15.8	14,600	2.03
Gayland Ward Seed Co.	EX9011	119	----	58.9	----	14.3	28,300	1.44
Richardson Seeds Ltd.	0413	114	----	55.3	----	12.7	22,500	1.54
Richardson Seeds Ltd.	50113	100	----	59.4	----	14.3	11,700	2.67
	Mean	128	76	57.8	54.8	14.9	23,100	1.75
	CV %	9.3	16.4	1.2	1.8	6.3	20.3	19.50
	L.S.D.	17	13	1.0	1.0	1.3	6,600	0.48

Cooperator: Bill and Louise Rigdon

No-till following wheat and double crop grain sorghum in 2012

Fertilizer: N: 124 lbs N + 5 gal/ac 10-34-0 with planter

Seeding rate 56,000 seeds/ac

Planting Date: April 22, 2013

Soil Series: Kirkland Silt Loam

Soil Test: N: 11 P: 126 K: 397 pH: 4.6

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

Target Population: 45,000 plants/ac

Harvest Date: September 19, 2013

Monthly Rainfall (in.)	April	May	June	July	Total
2013:	3.25	6.18	3.39	6.03	<b>18.85</b>
Long-term mean:	3.28	5.23	4.05	2.68	<b>15.24</b>

**Table 4. Results from Enid double crop grain sorghum performance trial, 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>	<i>Lodging %</i>
Richardson Seeds Ltd.	96173	99	58.9	16.7	34,700	0
Triumph Seed	TRX85131	94	56.8	12.7	40,000	0
Hoegemeyer	6064	84	55.4	15.2	39,200	31
Pioneer Hi-Bred Int.	85G03	82	55.6	17.2	38,100	30
Triumph Seed	4941	81	55.3	17.5	34,100	26
Advanta US	XG 1213	80	56.8	17.7	28,300	28
Advanta US	AG 2104	76	55.2	16.2	38,800	10
Gayland Ward Seed Co.	GW 9417	74	56.9	16.8	40,900	55
Gayland Ward Seed Co.	GW9480	73	56.8	17.2	39,700	55
DeKalb Brand	DKS 37-07	72	54.7	16.6	41,600	45
Sorghum Partners LLC	KS 585	69	55.1	15.8	39,100	38
Hoegemeyer	6037	67	55.0	16.1	33,700	70
Pioneer Hi-Bred Int.	86G32	66	55.6	15.9	37,600	75
DeKalb Brand	DKS 28-05	65	53.0	13.9	40,200	76
Richardson Seeds Ltd.	92123	64	56.2	16.2	37,000	6
Sorghum Partners LLC	SP3425	58	56.4	13.7	34,500	46
	Mean	75	55.8	16.2	37,300	----
	CV %	13.6	1.7	6.6	7.2	----
	L.S.D.	15	1.3	1.6	3,800	----

Cooperator: James and Richard Wuerflein  
 No-till double crop following 60 bu/ac wheat  
 Fertilizer: N: 100 lbs N + 5 gal/ac 10-34-0 with planter  
 Seeding rate 56,000 seeds/ac  
 Planting Date: June 27, 2013

Soil Series: Pond Creek Silt Loam  
 Soil Test: N: NA P: NA K: NA pH: NA  
 Herbicide: Lumax EZ 2.7 qts/ac (Preemergence)  
 Target Population: 45,000 plants/ac  
 Harvest Date: November 15, 2013

Monthly Rainfall (in.)	June	July	Aug	Sept	Oct	Total
2013:	3.96	7.45	3.63	2.78	2.38	<b>20.20</b>
Long-term mean:	4.09	2.94	3.18	3.10	2.99	<b>16.30</b>

**Table 5. Results from Homestead grain sorghum performance trial, 2013.**

Company Brand Name	Hybrid	Grain Yield bu/ac		Test weight lb/bu		Harvest Moisture	Plant Population plants/ac	Head Population heads/plant	Bird Damage %
		2013	2-year	2013	2-year				
DeKalb Brand	DKS 37-07	54	65	45.5	54.4	12.5	32,000	2.03	0
Sorghum Partners LLC	KS 585	61	64	57.0	56.1	13.1	30,700	1.91	10
Pioneer Hi-Bred Int.	86G32	53	62	52.4	50.8	12.4	37,500	1.47	10
Pioneer Hi-Bred Int.	85G03	62	60	55.2	52.7	16.2	32,300	2.13	13
DeKalb Brand	DKS 28-05	64	59	57.0	48.7	11.1	34,400	1.44	0
Hoegemeyer	6037	60	58	52.3	51.3	13.4	33,000	2.20	17
Triumph Seed	4941	52	54	53.0	51.7	18.1	29,200	2.72	22
Hoegemeyer	6064	66	-----	54.4	-----	13.0	39,700	1.76	0
Advanta US	XG 1213	57	-----	55.4	-----	13.8	31,100	1.92	3
Advanta US	AG 2104	55	-----	51.7	-----	14.5	34,600	1.47	0
Triumph Seed	TRX85131	53	-----	52.2	-----	19.6	35,400	1.87	3
Sorghum Partners LLC	SP3425	53	-----	55.5	-----	11.5	36,300	1.72	0
Richardson Seeds Ltd.	92123	44	-----	52.8	-----	16.3	21,000	2.46	10
Richardson Seeds Ltd.	96173	42	-----	54.5	-----	17.8	25,000	2.14	10
Gayland Ward Seed Co.	EX9059	38	-----	48.2	-----	20.0	32,300	2.43	27
Gayland Ward Seed Co.	EX9058	36	-----	49.0	-----	18.2	38,800	1.94	23
	Mean	53	60	52.9	52.3	15.1	32,800	1.98	-----
	CV %	15.0	14.5	2.9	4.6	14.2	12.6	17.7	-----
	L.S.D.	11	9	2.2	2.4	3.1	5,900	0.59	-----

Cooperator: Brook Strader

Conventional tillage following wheat and double crop sesame in 2012

Fertilizer: N: 120 lbs N + 5 gal/ac 10-34-0 with planter

Seeding rate: 56,000 seeds/ac

Planting Date: April 29, 2013

Soil Series: Canadian Fine Sandy Loam

Soil Test: N: 15 P: 195 K: 302 pH: 5.9

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

Target Population: 45,000 plants/ac

Harvest Date: September 5, 2013

Monthly Rainfall (in.)	April	May	June	July	Total
2013:	3.64	4.26	3.26	7.16	<b>18.32</b>
Long-term mean:	2.50	4.20	3.20	2.70	<b>12.60</b>



**Table 6. Results from OPREC limited irrigation grain sorghum performance trial, 2013.**

Company Brand Name	Hybrid	Grain yield bu/ac			Test weight lb/bu			Harvest Moisture %	Plant Population plants/ac	Head Population heads/plant
		2013	2-year	3-year	2013	2-year	3-year			
<b>Less than 70 days to mid-bloom</b>										
Pioneer Hi-Bred Int.	85G01	140	153	162	57.4	56.8	57.3	15.4	45,300	1.53
Sorghum Partners LLC	KS 585	147	154	161	56.3	57.8	57.8	14.5	43,100	1.56
DeKalb	DKS 37-07	134	156	159	53.0	55.8	56.5	12.1	47,200	1.71
DeKalb	DKS 28-05	148	148	151	54.7	54.3	55.1	14.1	56,700	1.51
Pioneer Hi-Bred Int.	86G32	140	156	151	54.6	55.4	55.6	13.7	51,900	1.39
Sorghum Partners LLC	NK5418	124	132	149	53.5	54.5	55.5	12.4	49,900	1.48
Pioneer Hi-Bred Int.	87P06	139	140	136	56.4	56.6	56.7	12.7	52,100	1.65
Fontanelle Hybrids	G 6192	158	167	----	55.2	56.3	----	17.1	48,200	1.41
Pioneer Hi-Bred Int.	85G03	146	160	----	57.5	57.4	----	16.6	50,600	1.44
Hoegemeyer	6037	104	127	----	48.4	52.7	----	13.0	47,700	1.47
Advanta US	AG 3101	157	----	----	57.1	----	----	18.5	51,000	1.21
Advanta US	AG 2102	152	----	----	53.9	----	----	15.3	47,600	1.25
DeKalb Brand	DKS38-88	151	----	----	55.5	----	----	15.0	50,300	1.23
Hoegemeyer	6064	148	----	----	55.2	----	----	16.0	52,100	1.27
Richardson Seeds Ltd.	92123	147	----	----	56.0	----	----	12.8	44,000	1.41
Advanta US	AG 2103	145	----	----	53.4	----	----	15.7	53,500	1.27
Advanta US	AG 2115	143	----	----	55.6	----	----	14.7	47,300	1.25
Advanta US	XG 1213	141	----	----	56.2	----	----	16.1	41,600	1.41
Hoegemeyer	6098	139	----	----	58.5	----	----	13.1	52,300	1.23
Gayland Ward Seed Co.	EX9010	138	----	----	54.1	----	----	18.2	49,100	1.17
Gayland Ward Seed Co.	EX9059	135	----	----	53.1	----	----	14.3	52,800	1.37
Advanta US	AG 2104	134	----	----	56.5	----	----	14.0	51,600	1.32
Hoegemeyer	6020	128	----	----	54.0	----	----	12.7	50,900	1.46
Sorghum Partners LLC	SP3425	122	----	----	55.2	----	----	12.8	47,300	1.67
Gayland Ward Seed Co.	EX9058	115	----	----	49.2	----	----	14.5	53,900	1.30
	Mean	139	149	153	54.8	55.8	56.4	14.6	49,500	1.39
	CV %	8.8	8.1	9.7	5.5	4.6	2.4	11.4	10.5	11.5
	L.S.D.	17	12	12	4.3	2.6	1.1	2.3	7,300	0.22

**70 days and greater to mid-bloom**

Pioneer Hi-Bred Int.	84P80	150	162	168	55.3	55.7	56.1	18.9	46,800	1.37
DeKalb Brand	DKS 53-67	164	163	164	55.9	56.2	56.3	18.0	45,400	1.44
DeKalb Brand	DKS 49-45	147	154	159	52.4	53.0	53.4	15.7	44,200	1.40
Pioneer Hi-Bred Int.	85Y40	151	154	158	56.9	57.1	57.6	18.1	46,800	1.35
Pioneer Hi-Bred Int.	84G62	144	152	158	54.9	55.3	55.6	16.9	49,200	1.18
Triumph Seed	TRX85131	150	154	156	53.8	54.2	54.9	18.3	41,900	1.32
Triumph Seed	4941	151	151	----	54.8	55.2	----	16.4	46,100	1.42
Triumph Seed	4951	146	149	----	55.4	54.3	----	14.8	39,500	1.21
Gayland Ward Seed Co.	GW 9417	140	132	----	55.8	55.3	----	19.6	45,500	1.21
Richardson Seeds Ltd.	68653	154	----	----	51.3	----	----	17.9	42,800	1.20
Hoegemeyer	7025	153	----	----	56.7	----	----	14.9	47,600	1.57
Richardson Seeds Ltd.	06173	149	----	----	56.4	----	----	19.1	50,300	1.11
Richardson Seeds Ltd.	0413	148	----	----	51.3	----	----	14.7	44,800	1.32
Sorghum Partners LLC	NK7633	146	----	----	53.8	----	----	17.5	49,700	1.35
Sorghum Partners LLC	KS 735	145	----	----	54.0	----	----	14.9	41,900	1.49
Richardson Seeds Ltd.	96173	145	----	----	54.4	----	----	17.7	43,700	1.37
Gayland Ward Seed Co.	EX9021	144	----	----	51.8	----	----	16.4	43,900	1.31
Gayland Ward Seed Co.	GW9480	141	----	----	56.1	----	----	16.9	42,500	1.43
Gayland Ward Seed Co.	EX8015	138	----	----	55.0	----	----	17.8	54,600	1.17
Gayland Ward Seed Co.	EX9011	138	----	----	56.0	----	----	15.5	48,200	1.18
Gayland Ward Seed Co.	EX8017	133	----	----	55.0	----	----	20.2	45,000	1.21
Gayland Ward Seed Co.	EX9061	130	----	----	52.4	----	----	17.5	40,000	1.58
Richardson Seeds Ltd.	50113	122	----	----	55.6	----	----	15.2	47,300	1.33
	Mean	145	152	161	54.5	55.2	55.6	17.1	45,600	1.33
	CV %	6.1	8.2	6.9	2.7	1.9	1.6	9.0	13.8	14.0
	L.S.D.	12	13	9	2.0	1.1	0.7	2.2	NS	0.26

Cooperator: OPREC

Strip-till following wheat in 2012

Herbicide: Lumax EZ 2.7 qts/ac (Preemergence)

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

Seeding rate 64,500 seeds/ac

Planting Date: June 17, 2013

Soil Series: Gruver Clay Loam (formerly Richfield)

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

Target Population: 50,000 plants/ac

Harvest Date: October 23, 2013

Monthly Rainfall (in.)	May	June	July	Aug	Sept	Total
Long-term mean:	3.25	2.86	2.58	2.28	1.77	<b>12.74</b>
2013:	0.14	1.92	1.02	4.04	1.95	<b>9.07</b>
Irrigation:	1.25	2.50	3.75	2.50	0.00	<b>10.00</b>

**Table 7. Results from OPREC dry-land grain sorghum performance trial, 2013.**

Company Brand Name	Hybrid	Grain Yield bu/ac	Test weight lb/bu	Harvest Moisture	Population plants/ac	Plant Population heads/plant	Head Lodging %
<b>Less than 70 days to mid-bloom</b>							
Hoegemeyer	6098	62.4	55.6	16.4	14,600	1.62	0
Pioneer Hi-Bred Int.	85G01	62.3	53.7	15.7	16,300	1.61	0
Advanta US	AG 2104	62.0	55.5	15.7	13,700	2.10	0
Gayland Ward Seed Co.	EX9059	61.2	55.3	14.6	14,900	2.44	0
Sorghum Partners LLC	KS 585	58.4	55.4	15.5	13,600	1.86	0
Advanta US	AG 2115	57.8	52.4	17.7	16,600	1.77	6
DeKalb Brand	DKS38-88	56.9	55.2	15.9	17,300	1.53	0
Pioneer Hi-Bred Int.	85G03	56.6	55.6	14.8	16,500	1.59	6
Hoegemeyer	6037	55.7	54.5	14.7	14,500	1.84	0
Pioneer Hi-Bred Int.	86G32	55.2	55.2	15.8	15,000	1.79	0
DeKalb	DKS 28-05	54.6	54.5	16.6	14,300	1.85	6
Advanta US	AG 2103	53.8	55.6	15.5	15,100	1.69	12
Gayland Ward Seed Co.	EX9058	52.1	56.7	15.1	15,600	1.70	0
Sorghum Partners LLC	NK5418	51.8	53.2	16.3	12,900	1.51	0
Sorghum Partners LLC	SP3425	51.3	55.8	14.7	14,000	1.69	0
Advanta US	XG 1213	50.8	56.4	13.6	13,600	2.09	0
Pioneer Hi-Bred Int.	87P06	50.0	55.7	14.3	13,700	2.32	0
Hoegemeyer	6064	49.8	55.1	16.1	14,700	1.76	6
Richardson Seeds Ltd.	92123	48.9	54.7	14.4	15,800	1.96	10
DeKalb	DKS 37-07	48.0	54.7	17.0	12,100	1.86	0
Hoegemeyer	6020	45.2	53.2	17.3	12,100	1.82	6
Gayland Ward Seed Co.	EX9010	44.8	54.5	16.7	11,800	1.73	0
Advanta US	AG 3101	40.1	55.7	16.3	14,300	1.52	0
Advanta US	AG 2102	39.4	54.5	17.4	10,000	2.09	0
	Mean	52.9	55.0	16.7	14,300	1.82	----
	CV %	15.2	2.9	12.5	22.2	16.10	----
	L.S.D.	13.2	NS	NS	NS	0.48	----
<b>Greater than 70 days to mid-bloom</b>							
Gayland Ward Seed Co.	EX9021	61	54.0	15.0	16,400	1.61	12
DeKalb Brand	DKS 49-45	57	54.5	16.6	15,500	1.65	15
Hoegemeyer	7025	57	54.6	15.9	17,700	1.72	12
Sorghum Partners LLC	NK7633	53	53.5	18.2	13,800	1.79	6
Sorghum Partners LLC	KS 735	52	54.2	15.8	15,600	1.51	0
Triumph Seed	TRX85131	52	53.8	19.0	15,400	1.55	0
Triumph Seed	4941	51	55.1	16.0	16,900	1.59	6
Gayland Ward Seed Co.	GW 9417	48	54.9	19.9	15,600	1.48	6
Richardson Seeds Ltd.	0413	46	52.5	15.7	12,000	1.57	0
Pioneer Hi-Bred Int.	85Y40	44	54.9	15.6	14,500	1.68	0
Richardson Seeds Ltd.	50113	43	52.9	14.6	13,600	1.60	6
Triumph Seed	4951	43	54.0	15.5	10,600	1.51	0
Gayland Ward Seed Co.	EX8015	41	54.8	17.1	14,200	1.36	6
Gayland Ward Seed Co.	EX9011	39	54.3	17.9	12,200	1.43	6
Gayland Ward Seed Co.	GW9480	37	53.7	17.7	12,000	1.48	6
Richardson Seeds Ltd.	96173	37	53.7	20.5	12,000	1.47	0
Gayland Ward Seed Co.	EX8017	37	54.9	16.9	14,000	1.22	6
Richardson Seeds Ltd.	06173	24	52.4	22.9	12,200	1.41	0
Richardson Seeds Ltd.	68653	22	51.8	20.1	9,800	1.33	12
	Mean	45	53.9	17.4	13,900	1.52	----
	CV %	16.1	2.9	13.3	20.6	17.5	----
	L.S.D.	12	NS	3.8	NS	NS	----

Cooperator: OPREC  
 No-till following wheat in 2012  
 Herbicide: Lumax EZ 2.7 qts/ac  
 Fertilizer: N: 75 lbs N + 5 gal/ac 10-34-0 with planter  
 Seeding rate 31,200 seeds/ac  
 Planting Date: June 17, 2013

Soil Series: Gruver Clay Loam (formerly Richfield)  
 Soil Test: N: 44 P: 23 K: 1,018 pH: 7.7

Target Population: 25,000 plants/ac  
 Harvest Date: October 28, 2013

Monthly Rainfall (in.)	May	June	July	Aug	Sept	Total
Long-term mean:	3.25	2.86	2.58	2.28	1.77	<b>12.74</b>
2013:	0.14	1.92	1.02	4.04	1.95	<b>9.07</b>



## **The Oklahoma Cooperative Extension Service**

### ***Bringing the University to You!***

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

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