



# GRAIN SORGHUM PERFORMANCE TRIALS IN OKLAHOMA, 2007

## PRODUCTION TECHNOLOGY CROPS

OKLAHOMA COOPERATIVE EXTENSION SERVICE  
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## TRIAL OBJECTIVES AND PROCEDURES

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

Performance trials are conducted at eight locations in Oklahoma: Altus, Blackwell, Cherokee, Enid, Goodwell, Homestead, Keyes, and Tipton. Dryland trials are conducted at all locations, with an additional limited irrigation trial at Goodwell. The Cherokee and Homestead locations are uniquely designed trials to evaluate certain hybrids (generally early and medium maturity) for planting in late April. In 2004 a trial was established at Enid to evaluate hybrids for use as a double crop. Due to rainfall, the Enid trial was not planted in 2007. **All trial locations also have DK-44 and KS 585 planted with and without (WO) seed applied insecticide to determine the effect of**

### these treatments on grain yield.

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, and Enid 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 therefore 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. Plots were trimmed to 20 feet prior to harvest. Tractor powered cone planters were used to plant all trials with seeding rates adjusted for trial location. Trials were harvested with a Massey-Ferguson model, 8 plot combine.

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. This year we only reported in-season rainfall, as compared to yearly totals, in previous reports.

### Highlights

Exceptional grain yields (140 bu/ac or higher) were reported by producers for grain sorghum that was planted in late April or early May in north central Oklahoma. The yields for the Cherokee and Homestead trials were the highest in the last 10 years. In fact, hybrids that have been in the Cherokee trial a minimum of four years averaged over 100 bu/ac. In the panhandle yields were near 60 bu/ac for most producers due to lack of rain fall after the middle of July.

## GROWING CONDITIONS

### Moisture

Soil moisture conditions were excellent for planting at all April planted trials. In fact, excess moisture through the body of the state prevented many producers from planting in a timely fashion. In the Panhandle moisture from rainfall in May and June was timely for planting. Likewise, rainfall for the body of the state was near record for the months of May through July. As a result excellent grain yields were obtained at most locations. Grain yields at the Cherokee and Homestead trials for example, were the highest in the last ten years of trials. Producers reported yields greater than 140 bu/ac when adequate N fertilizer was applied. Yields were equally as good in the southwest region of the state, but the Altus trial had at least a 20% reduction in yield due to bird damage.

Rainfall in the panhandle was not uniform across the area late in the growing season. Grain yields for dry-land grain sorghum (most producer reported yields of 60 bu/ac) in the region were attained mainly from stored soil moisture from winter precipitation. Record precipitation was received in December (2007 3.75 inches vs. old record 2.75 inches). Some producers in Beaver county had yields of over 80 bu/ac from rainfall received in late August that was not received in Cimarron or Texas county.

## RESULTS

As mentioned previously, yields in 2007 were the highest in the last 10 years of trials and some producers reported their highest grain yields ever. Lack of nitrogen fertilizer probably had the largest impact on lower yields for some producers. There were no major harvest delays at trial locations or for producers with early-planted grain sorghum. Grain sorghum in the panhandle was harvested earlier than normal due to dry conditions.

Grain yields are reported bushel per acre of threshed grain, adjusted to a moisture content of 14.0% (Tables 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.

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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.

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**Table 1. Seed source and hybrid characteristics of grain sorghum in the Oklahoma Grain Sorghum Performance Trials, 2007. All hybrids are susceptible to birds and are single cross.**

Company Brand Name	Hybrid	Seed Color	Endo-sperm	Days to Mid-bloom	Greenbug Resistance
Early Maturity					
NC+ Hybrids	5B89	Bz	Na	59	C
NC+ Hybrids	5B37	Bz	Na	58	C
Sorghum Partners Inc	KS 310	Bz	HY	57	C,E
Walter Moss Seed Co. LTD	M-927-ER	Red	Na	59	None
Asgrow Seed	Pulsar	Bz	HY	60	C,E,I
DEKALB.	DKS 37-07	Bz	HY	60	C,E,I
DEKALB.	DKS 29-28	Bz	HY	58	C,E
Medium Maturity					
DEKALB.	DKS 36-16	BZ	HY	61	NA
NC+ Hybrids	7C22	Cream		69	None
Garst Seed Company	5750	BZ	HY	62	C, E
Sorghum Partners Inc	KS 585	Bz	HY	67	C, E
Garst Seed Company	5401	R	HY	68	E
Sorghum Partners Inc	NK4420	Bz	HY	62	C,E
NC+ Hybrids	6B50	Bz	HY	62	None
Sorghum Partners Inc	NK5418	Bz	HY	67	C,E
Walter Moss Seed Co. LTD	M-929-MB	Bz	Na	65	None
DEKALB.	DKS 42-20	Bz	Hy	62	C, E
DEKALB.	DK 44	Bz	HY	67	C, E
Late Maturity (Full season)					
NC+ Hybrids	7R34	R	NA	70	None
Sorghum Partners Inc	NK7633	Bz	HY	73	C
Sorghum Partners Inc	NK7829	Bz	HY	71	C
DEKALB.	DKS 54-00	Bz	HY	72	C,E,I
Walter Moss Seed Co. LTD	M-1024-DPW	W	NA	75	None

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

Maturity group: Early (less than 60 days to mid-bloom); Medium (60 – 70 days to mid-bloom); Late – (70+ days to mid-bloom)

Greenbug Resistance: Biotype hybrid is resistance too

**Table 2. Results from Altus grain sorghum performance trial, 2007.**

Company Brand Name	Entry Designation	Grain Yield bu/ac 2007	Test weight Lb/bu 2007	Plant Population plants/ac	Head Population heads/ac	
Early						
DEKALB	DKS 37-07	92.4	58.2	43,100	1.19	
Asgrow Seed	Pulsar	87.7	57.5	44,800	1.20	
NC+ Hybrids	5B89	87.1	56.9	46,900	1.18	
NC+ Hybrids	5B37	81.5	52.5	50,300	1.15	
DEKALB	DKS 29-28	78.9	55.5	44,400	1.17	
Sorghum Partners Inc	KS 310	70.7	54.1	43,600	1.16	
		Mean	83.0	55.8	45,500	1.18
		C.V.%	8.7	3.7	6.6	5.6
		L.S.D.	10.9	3.1	NS	NS

Note: 20% bird damage on all hybrids in 2007.

Company Brand Name	Entry Designation	Grain Yield bu/ac 2007	Test weight Lb/bu 2007	Plant Population plants/ac	Head Population heads/ac	
Medium						
NC+ Hybrids	6B50	108.7	56.0	46,200	1.32	
NC+ Hybrids	7R34	100.7	60.1	40,900	1.41	
Garst Seed Company	5401	98.5	59.3	45,700	1.31	
Sorghum Partners Inc	KS 585 wo	97.2	58.0	48,200	1.30	
Dekalb	DKS 36-16	92.9	57.5	46,000	1.29	
Sorghum Partners Inc	KS 585	91.3	58.1	45,300	1.27	
DEKALB	DK 44 wo	89.4	58.3	41,500	1.12	
DEKALB	DKS 42-20	89.3	56.4	49,100	1.21	
DEKALB	DK 44	88.2	57.8	40,300	1.18	
Sorghum Partners Inc	NK5418	87.0	57.1	38,300	1.52	
Garst Seed Company	5750	86.6	56.4	47,300	1.26	
Sorghum Partners Inc	NK4420	83.8	56.9	43,000	1.29	
NC+ Hybrids	7C22	75.1	57.2	47,300	1.07	
Sorghum Partners Inc	NK7829	69.6	57.3	45,000	1.11	
		Mean	89.9	57.6	44,600	1.26
		C.V.%	6.3	2.3	8.5	9.6
		L.S.D.	8.1	1.9	5,400	0.17

wo: no insecticide treatment

Cooperator: Southwest Research and Extension Center  
 Conventional Tillage Practices: Sorghum-fallow-sorghum rotation  
 Fertilizer: N: 74 lbs/ac P: 0 K: 0  
 Planting Date: April 27, 2007 Target Population: 45,000 plants/ac  
 Harvest Date: August 31, 2007

Soil Series: Tillman Hollister Clay Loam  
 Soil Test: N: 28 P: 77 K: 1205 pH: 6.1  
 Herbicide: 2 qt/ac Cinch ATZ Lite Preemergence

Monthly Rainfall (in.)

	Apr.	May	June	July	Aug.	Total
2007:	1.34	2.73	5.35	1.38*	3.23	<b>14.03</b>
Long term mean:	1.92	4.23	3.51	1.76	2.45	<b>13.87</b>

**Table 3. Results from Cherokee grain sorghum performance trial, 2007.**

Company Brand Name	Entry Designation	Days To Midbloom	Grain Yield bu/ac			Test weight lb/bu			Plant Population plants/ac	Head Population heads/ac
			2007	Two-year	Four-year	2007	Two-year	Four-year		
Sorghum Partners Inc	KS 585	67	141.2	115.3	106.7	60.9	60.1	59.3	37,800	1.91
DEKALB	DK 44	67	127.0	111.9	101.6	58.3	57.1	57.3	31,100	1.81
DEKALB	DKs 37-07	60	126.6	116.1	101.0	60.8	58.8	58.5	30,000	2.09
DEKALB	DKS 42-20	65	119.4	103.0	100.5	60.0	57.8	57.7	33,700	1.79
Sorghum Partners Inc	KS 585 wo	67	116.8	109.3	69.8	60.1	59.1	NA	34,200	1.97
DEKALB	DK 44 wo	67	115.5	99.2	64.6	59.3	57.2	NA	28,400	1.82
NC+ Hybrids	6B50	62	140.3	120.0	-----	58.4	56.7	-----	41,300	1.67
Garst Seed Company	5750	62	134.0	116.1	-----	59.7	58.3	-----	41,200	2.12
Sorghum Partners Inc	KS 310	58	88.5	88.7	-----	58.1	55.8	-----	36,200	1.75
DEKALB	DKS 36-16	61	145.0	-----	-----	58.6	-----	-----	38,100	1.90
NC+ Hybrids	5B89	59	133.1	-----	-----	57.5	-----	-----	36,000	1.89
NC+ Hybrids	5B37	58	110.1	-----	-----	60.3	-----	-----	35,100	2.03
wo: no insecticide treatment		Mean	124.8	108.8	90.7	59.3	57.9	-----	35,200	1.89
		C.V.%	10.2	11.8	30.5	2.4	2.0	-----	9.4	11.4
		L.S.D.	18.3	12.9	19.5	2.1	1.2	-----	4,800	NS

Note: CV% high for 4 year because in 2005 hybrids without seed insecticide treatment never emerged

Cooperator: Doug McMurtrey      Soil Series: Pond Creek Silt Loam      No-till Practices: fallowed after wheat in 2006

Soil Test: N: 6 P: 22 K: 271 pH: 6.1      Fertilizer: N: 135 lbs N/ac + 5 gal/ac 10-34-0 with planter

Planting Date: April 21, 2007 Target Population: 45,000 plants/ac      Herbicide 2 qt/ac Atrazine pre-plant

Harvest Date: August 29, 2007

Monthly Rainfall (in.)

	Apr.	May	June	July	Aug.	Total
2006:	0.99	1.06	2.97	0.70	3.67	<b>16.88</b>
2007:	3.32	6.39	10.56	2.22	0.90	<b>23.39</b>
Long term mean:	3.28	5.83	4.05	2.68	3.19	<b>19.03</b>

**Table 4. Results from Homestead grain sorghum performance trial, 2007.**

Company Brand Name	Entry Designation	Days To Midbloom	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac	Head Population heads/ac	
			2007	Two-year	2007	Two-year			
NC+ Hybrids	6B50	62	146.1	95.6	59.8	56.5	36,400	1.69	
Garst Seed Company	5750	62	138.2	94.0	60.5	58.4	36,800	1.89	
Sorghum Partners Inc	KS 585 wo	67	136.2	92.7	61.4	58.7	35,400	1.78	
Sorghum Partners Inc	KS 585	67	137.1	90.1	62.0	59.8	34,000	1.85	
DEKALB	DKS 42-20	65	131.3	87.8	61.4	57.7	28,800	1.93	
DEKALB	DK 44	67	133.8	83.7	60.2	57.3	28,100	1.86	
DEKALB	DK 44 wo	67	126.0	82.9	60.2	58.5	26,100	1.81	
DEKALB	DKs 37-07	60	104.1	72.6	60.8	58.9	24,900	1.97	
Sorghum Partners Inc	KS 310	58	65.5	49.0	58.3	53.9	29,800	1.90	
DEKALB	DKS 36-16	61	148.1	-----	60.0	-----	36,200	1.65	
NC+ Hybrids	5B89	59	128.4	-----	60.7	-----	32,100	1.85	
NC+ Hybrids	5B37	58	92.2	-----	59.0	-----	31,200	1.94	
wo: no insecticide treatment			Mean	123.9	83.2	60.4	57.7	31,600	1.84
			C.V.%	7.8	16.9	0.8	2.6	14.0	13.10
			L.S.D.	13.9	14.1	0.7	1.5	6,400	NS

Note: KS 310 was only hybrid with damage due to deer in 2007

Cooperator: Brook Strader  
 Soil Series: Pratt Loamy Fine Sand  
 No-till tillage Practices: Fallowed since wheat harvest of 2006  
 Soil Test: N: 3 P: 30 K: 243 pH: 6.0  
 Fertilizer: N: 140 lbs N + 5 gal/ac 10-34-0 with planter  
 Herbicide: Cinch ATZ Lite 1.5 qts/ac (Preemergence)  
 Planting Date: April 21, 2007 Target Population: 45,000 plants/ac  
 Harvest Date: August 29, 2007

Monthly Rainfall (in.)

	Apr.	May	June	July	Aug.	Total
2006:	1.47	1.64	2.39	3.42	3.33	<b>12.25</b>
2007:	2.46	5.18	11.87	3.79	1.55	<b>24.85</b>
Long term mean:	2.50	4.20	3.20	2.70	2.80	<b>15.40</b>

**Table 5. Results from Keyes dryland grain sorghum performance trial, 2007.**

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac	Head Population heads/ac
		2007	Two-year	2007	Two-year		
Early							
NC+ Hybrids	5B89	54.4	74.2	60.9	57.7	22,800	1.62
DEKALB	DKS 29-28	52.7	70.8	60.1	57.8	24,200	1.72
DEKALB	DKS 37-07	62.8	70.3	61.2	58.3	21,200	1.61
Asgrow Seed	Pulsar	54.7	63.3	60.0	58.2	19,100	1.96
NC+ Hybrids	5B37	59.3	-----	60.5	-----	32,600	1.27
Sorghum Partners Inc	KS 310	50.4	-----	61.0	-----	22,100	1.41
Mean		55.7	69.7	60.6	58.0	23,600	1.59
C.V.%		7.3	11.2	1.2	1.7	16.3	13.0
L.S.D.		7.4	8.8	NS	1.1	7,000	0.38

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac	Head Population heads/ac
		2007	Two-year	2007	Two-year		
Medium							
Sorghum Partners Inc	KS 585	49.6	98.6	61.2	58.6	21,100	1.31
DEKALB	DKS 42-20	56.8	86.4	61.5	58.0	19,600	1.51
Sorghum Partners Inc	NK5418	58.2	84.0	61.0	58.0	19,800	1.69
Sorghum Partners Inc	KS 585	46.5	82.2	60.8	58.6	19,000	1.47
DEKALB	DK 44	50.6	80.3	61.0	57.2	22,200	1.37
Sorghum Partners Inc	NK4420	55.5	-----	59.1	-----	21,300	1.41
DEKALB	DKS 36-16	54.6	-----	60.9	-----	21,300	1.57
NC+ Hybrids	7R34	52.9	-----	60.0	-----	20,100	1.49
NC+ Hybrids	7C22	52.7	-----	61.0	-----	21,400	1.29
Sorghum Partners Inc	NK7829	50.6	-----	59.1	-----	20,800	1.27
NC+ Hybrids	6B50	49.0	-----	61.3	-----	21,100	1.41
DEKALB	DK 44	44.5	-----	60.9	-----	20,700	1.34
Mean		51.8	86.3	60.7	58.1	20,700	1.42
C.V.%		9.1	12.5	0.7	2.0	10.0	14.0
L.S.D.		8.0	11.9	0.7	1.3	3,500	0.34

Note: two-year means are from 2005 and 2007

Cooperator: J.B. Stewart

Soil Series: Richfield Clay Loam

Conventional Tillage Practices: Sorghum-fallow-sorghum rotation

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

Fertilizer: N: 100 lbs/ac P: 0 K: 0

Herbicide: 1 qt/ac Cinch ATZ Lite + 1 Qt Atrazine Preemergence

Planting Date: June 8, 2007 Target Population: 22,000 plants/ac

Harvest Date: November 2, 2007

Monthly Rainfall (in.)

	May	June	July	Aug.	Sep.	Total
	1.00	0.90	2.38	0.93	0.35	<b>5.56</b>
Long term mean:	2.76	2.92	2.85	2.55	1.97	<b>13.05</b>

**Table 6. Results from OPREC dryland grain sorghum performance trial, 2007.**

Company Brand Name	Entry Designation	Grain Yield bu/ac			Test weight lb/bu			Plant Population plants/ac	Head Population heads/ac	Lodging
		2007	2-year	3-year	2007	2-year	3-year			
Early										
Asgrow Seed	Pulsar	54.8	59.0	59.9	57.5	53.7	55.1	17,000	2.50	25
DEKALB	DKS 37-07	58.6	54.0	57.2	59.4	51.7	54.0	19,100	1.99	20
DEKALB	DKS 29-28	57.5	59.6	56.4	57.7	55.2	55.9	21,200	2.23	10
Sorghum Partners Inc	KS 310	58.3	64.3	-----	58.5	55.7	-----	20,300	1.91	5
NC+ Hybrids	5B37	58.6	-----	-----	58.0	-----	-----	24,500	1.86	15
NC+ Hybrids	5B89	46.8	-----	-----	57.5	-----	-----	22,900	1.75	50
	Mean	55.8	59.2	57.8	58.1	54.1	55.0	20,800	2.03	-----
	C.V.%	15.6	19.6	18.2	1.4	5.2	5.1	9.8	7.4	-----
	L.S.D.	NS	NS	NS	NS	2.9	2.4	3,100	0.23	-----

Cooperator: OPREC

Soil Series: Richfield Clay Loam

No-till Practices: Planted following wheat in 2006

Soil Test: N: 51 lbs/ac      P: 27      K: 949      pH: 7.8

Fertilizer: N: 50 lbs N/ac + 5 gal/ac 10-34-0 with planter

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

Planting Date: May 31, 2007      Target Population: 22,000 plants/ac

Harvest Date: September 20, 2007



**Table 6. Continued**

Company Brand Name	Entry Designation	Grain Yield bu/ac			Test weight lb/bu			Plant Population plants/ac	Head Population heads/ac	Lodging
		2007	2-year	3-year	2007	2-year	3-year			
Medium										
Sorghum Partners Inc	KS 585	59.5	55.6	54.8	60.3	53.0	54.6	19,500	2.00	0
Sorghum Partners Inc	KS 585 wo	61.0	55.4	54.1	59.9	53.4	54.8	20,100	2.07	0
DEKALB	DK 44	59.9	46.9	46.6	58.7	50.4	53.0	19,400	1.90	10
DEKALB	DK 44 wo	48.7	40.3	43.4	59.1	50.9	53.4	18,600	1.65	10
NC+ Hybrids	6B50	64.5	-----	-----	56.9	-----	-----	22,900	1.75	15
NC+ Hybrids	7R34	58.9	-----	-----	59.3	-----	-----	23,900	1.78	0
DEKALB	DKS 36-16	56.6	-----	-----	57.7	-----	-----	22,100	1.98	10
Sorghum Partners Inc	NK5418	50.7	-----	-----	57.4	-----	-----	19,700	2.20	70
Sorghum Partners Inc	NK7829	48.1	-----	-----	56.5	-----	-----	20,100	1.55	35
DEKALB	DKS 42-20	47.7	-----	-----	56.9	-----	-----	22,500	1.79	55
NC+ Hybrids	7C22	43.3	-----	-----	57.8	-----	-----	23,200	1.71	60
Sorghum Partners Inc	NK4420	37.1	-----	-----	57.0	-----	-----	23,400	1.75	65
wo: no insecticide treatment	Mean	53.0	49.5	49.7	58.1	51.9	53.9	21,300	1.84	-----
	C.V.%	12.8	15.5	16.0	1.9	2.9	2.9	13	10.6	-----
	L.S.D.	9.8	8.0	6.6	1.6	1.6	1.3	NS	0.28	-----

Monthly Rainfall (in.)

	May	June	July	Aug.	Sep.	Total
2006:	2.19	2.34	2.05	4.06	1.19	<b>11.83</b>
2007:	1.48	1.62	2.00	0.26	0.35	<b>5.71</b>
Long term mean:	3.25	2.86	2.58	2.28	1.77	<b>12.74</b>

**Table 7. Results from OPREC limited irrigation grain sorghum performance trial, 2007.**

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac	Head Population heads/ac	Lodging
		2007	2-year	2007	2-year			
Early								
Asgrow Seed	Pulsar	91.4	112.2	59.1	59.8	45,700	1.52	10
DEKALB	DKS 37-07	84.1	105.9	59.7	60.0	46,600	1.27	15
DEKALB	DKS 29-28	83.3	100.6	58.2	59.0	47,200	1.45	15
Sorghum Partners Inc	KS 310	82.9	99.0	59.1	59.3	44,700	1.43	0
Walter Moss Seed Co. LTD	M-927-ER	83.2	-----	58.4	-----	46,200	1.32	35
NC+ Hybrids	5B37	82.2	-----	58.7	-----	50,400	1.37	0
NC+ Hybrids	5B89	80.0	-----	59.5	-----	47,900	1.36	5
Mean		83.9	104.4	58.9	59.5	47,000	1.39	-----
C.V.%		16.6	12.1	1.3	1.4	7.1	12.6	-----
L.S.D.		NS	13.1	1.1	0.85	NS	NS	-----

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac	Head Population heads/ac	Lodging
		2007	2-year	2007	2-year			
Early								
Sorghum Partners Inc	KS 585	108.8	121.0	61.6	60.7	53,300	1.31	0
Sorghum Partners Inc	KS 585	111.3	111.9	61.3	60.6	54,500	1.38	0
DEKALB	DK 44	93.4	106.7	60.0	59.5	48,000	1.38	0
DEKALB	DK 44	87.1	105.2	60.0	59.3	48,500	1.12	0
DEKALB	DKS 42-20	103.9	-----	61.0	-----	52,200	1.30	5
DEKALB	DKS 36-16	103.8	-----	61.2	-----	49,400	1.38	0
Sorghum Partners Inc	NK5418	98.8	-----	59.5	-----	48,100	1.43	0
NC+ Hybrids	6B50	98.1	-----	59.4	-----	47,900	1.37	0
Walter Moss Seed Co. LTD	M-929-MB	96.0	-----	60.8	-----	42,800	1.50	0
Sorghum Partners Inc	NK4420	90.0	-----	60.7	-----	52,800	1.24	5
NC+ Hybrids	7C22	81.4	-----	59.5	-----	47,200	1.24	45
Mean		97.5	111.2	60.4	60.0	49,500	1.33	-----
C.V.%		8.7	10.0	1.2	1.5	6.7	8.2	-----
L.S.D.		14.4	11.5	1.3	0.9	5,700	0.19	-----
wo: no insecticide treatment								

**Table 7. Continued**

Company Brand Name	Entry Designation	Grain Yield bu/ac 2007	Test weight Lb/bu 2007	Plant Population plants/ac	Head Population heads/ac	Lodging
Full						
NC+ Hybrids	7R34	101.6	61.4	49,800	1.38	0
Sorghum Partners Inc	NK7633	100.6	58.7	50,100	1.27	0
DEKALB	DKS 54-00	95.1	58.8	51,500	1.22	5
Sorghum Partners Inc	NK7829	71.7	58.4	46,800	1.22	30
	Mean	92.3	59.3	49,600	1.27	-----
	C.V.%	7.8	0.7	5.1	9.1	-----
	L.S.D.	11.5	0.7	NS	NS	-----

Cooperator: OPREC

Soil Series: Richfield Clay Loam

Strip Tillage Practices: Planted following soybean in 2006

Soil Test: N: 34 lbs/ac      P: 24      K: 868      pH: 8.0

Fertilizer: N: 150 lbs N/ac and 40 lbs/P<sub>2</sub>O<sub>5</sub>

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

Planting Date: June 13, 2007    Target Population: 50,000 plants/ac

Harvest Date: October 5, 2007

Monthly Rainfall (in.)

	May	June	July	Aug.	Sep.	Total
2006:	2.19	2.34	2.05	4.06	1.19	<b>11.83</b>
2007:	1.48	1.62	2.00	0.26	0.35	<b>5.71</b>
Long term mean:	3.25	2.86	2.58	2.28	1.77	<b>12.74</b>

----- Irrigation (in.) -----

May	Jun.	Jul.	Aug.	Sept.
1.0	1.0	2.0	3.0	0.0

**Table 8. Results from Tipton grain sorghum performance trial, 2006.**

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac	Head Population heads/ac
		2007	Two-year	2007	Two-year		
Early							
Asgrow Seed	Pulsar	121.2	78.2	58.6	56.6	35,300	1.83
DEKALB	DKS 37-07	124.1	75.6	59.6	57.1	38,200	1.48
DEKALB	DKS 29-28	111.4	72.8	55.9	55.8	41,100	1.78
Sorghum Partners Inc	KS 310	81.4	57.1	56.6	57.4	43,900	1.34
NC+ Hybrids	5B89	119.5	-----	58.1	-----	44,100	1.65
NC+ Hybrids	5B37	89.9	-----	54.6	-----	38,900	1.57
	Mean	107.9	70.9	57.2	56.7	40,200	1.61
	C.V.%	8.1	19.0	2.7	3.9	8.2	8.6
	L.S.D.	13.2	14.0	2.4	NS	5,000	0.21

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac	Head Population heads/ac
		2007	Two-year	2007	Two-year		
Medium							
NC+ Hybrids	6B50	126.6	74.5	57.6	56.4	45,600	1.38
Sorghum Partners Inc	KS 585	117.3	73.9	60.6	58.9	42,100	1.59
Garst Seed Company	5750	112.4	73.3	58.9	57.6	45,800	1.52
DEKALB	DKS 42-20	112.1	66.9	59.7	56.9	42,300	1.52
Sorghum Partners Inc	KS 585 wo	104.3	64.6	59.4	57.4	34,300	1.74
DEKALB	DKS 36-16	108.7	63.4	58.9	56.4	44,500	1.42
DEKALB	DK 44 wo	105.8	62.4	58.7	57.2	38,500	1.32
DEKALB	DK 44	106.0	60.4	58.6	56.7	39,500	1.21
Garst Seed Company	5401	120.3	-----	59.2	-----	48,800	1.31
Sorghum Partners Inc	NK4420	116.4	-----	58.1	-----	45,700	1.42
NC+ Hybrids	7R34	113.4	-----	60.3	-----	42,800	1.50
NC+ Hybrids	7C22	110.5	-----	58.5	-----	45,500	1.23
Sorghum Partners Inc	NK5418	106.2	-----	57.9	-----	37,600	1.76
Sorghum Partners Inc	NK7829	90.4	-----	58.2	-----	40,700	1.12
	Mean	110.7	67.4	58.9	57.2	42,400	1.43
	C.V.%	10.0	15.1	1.4	2.0	10.8	8.60
	L.S.D.	15.9	10.2	1.2	1.2	6,600	0.18

Cooperator: Southwest Research and Extension Center  
 Conventional Tillage Practices: Sorghum-fallow-sorghum rotation  
 Fertilizer: N: 69 lbs/ac P: 0 K: 0  
 Planting Date: April 27, 2007 Target Population: 45,000 plants/ac  
 Harvest Date: August 30, 2007

Soil Series: Tipton Silt Loam  
 Soil Test: N: 34 P: 69 K: 790 pH: 6.5  
 Herbicide: 2 qt/ac Cinch ATZ Lite Preemergence

	Apr.	May	June	July	Aug	Total
2006:	2.91	2.70	0.49	1.09	2.08	<b>7.19</b>
2007:	1.87	2.29	9.72	1.38	3.30	<b>18.56</b>
Long term mean:	2.30	4.30	3.45	2.08	2.71	<b>14.84</b>