



GRAIN SORGHUM PERFORMANCE TRIALS IN OKLAHOMA, 2006

PRODUCTION TECHNOLOGY CROPS

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TRIAL OBJECTIVES AND PROCEDURES

Each year, performance trials for hybrid grain sorghums 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 unique 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. **All trial locations also have DK-44 and KS 585 planted with and without (WO) seed applied insecticide to determine the affect 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 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

The drought that reduced wheat yields in 2006 also affected yields of summer crops. The only dryland trial in the state with high yields was the no-till trial at Cherokee, with an average yield of 91.0 bu/ac.

The yield for the limited irrigation trial at OPREC was higher than expected. The full season hybrids averaged 142.5 bu/ac with only 5 inches of irrigation. Producers also reported yields of 180 bu/ac with irrigation amounts of 5 – 6 inches.

GROWING CONDITIONS

Moisture

Soil moisture conditions were adequate for planting at all trials planted in April except for Homestead, which was dusted in and received adequate moisture for emergence 10 days later. In the panhandle, May and early-June rains provided adequate moisture for planting in Texas and Beaver counties. Cimarron county, however did not receive adequate rainfall for planting until late June. Most areas of the state had visible drought stress during some point of the growing season. Rainfall was variable with some areas receiving adequate precipitation and other areas none during June and July. The panhandle region had more than adequate rainfall from late June through September. Although adequate rainfall was received, later planting did delay grain sorghum maturity. With the delay in maturity test weights were negatively affected, and test weights near 40 lbs/bu were common. There were yields of double crop sorghum near 60 bu/ac reported in central Oklahoma, but the trial at Enid was abandoned due to lack of rainfall. The Tipton and Altus locations were affected by drought stress throughout the growing season which explains the low yields at Tipton and the trial being abandoned at Altus.

RESULTS

Yields in 2006 were lower than those from 2005 at most locations. Also more trials were abandoned or not planted due to drought stress than in 2005. There were no major harvest delays at trial locations or for producers with early-planted grain sorghum. Due to the delay in maturity of grain sorghum in the panhandle, harvest was delayed until temperatures were low enough to kill the plant.

Grain yields are reported bushel per acre of threshed grain, adjusted to a moisture content of 14.0% (Tables 2-7). 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 precluded comparison between locations. Also comparisons

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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 are 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, 2006. 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					
Frontier Hybrids	F 222 E	R	Y	52	E
Frontier Hybrids	F 270 E	Bz	Y	54	E
Frontier Hybrids	F 303 C	Cr	Y	59	E
Sorghum Partners Inc	KS 310	BZ	HY	57	C,E
Sorghum Partners Inc	NK 3303	W	Y	57	NA
Asgrow Seed	Pulsar	Bz	HY	60	C,E,I
Dekalb Genetics Corp.	DKS 37-07	Bz	HY	60	C,E,I
Dekalb Genetics Corp.	DKS 29-28	Bz	HY	58	C,E
Frontier Hybrids	F 305	Cr	Y	60	E
Medium Maturity					
Garst Seed Company	5360	R	HY	69	NA
Dekalb Genetics Corp.	DKS 36-16	BZ	HY	61	NA
Garst Seed Company	5750	BZ	HY	62	C, E
Sorghum Partners Inc	KS 585	Bz	HY	67	C, E
Sorghum Partners Inc	KS 585				
Garst Seed Company	5401	R	HY	68	E
NC+ Hybrids	6B50	Bz	HY	62	None
Dekalb Genetics Corp.	DKS 42-20	Bz	Hy	62	C, E
Dekalb Genetics Corp.	DK 44	Bz	HY	67	C, E
Dekalb Genetics Corp.	DK 44				
Seed Resource	SR 421	R	HY	62	None
Seed Resource	SR 254	R	HY	62	None
NC+ Hybrids	6C21	Cr	NA	62	C
NC+ Hybrids	7R34	R	NA	70	None
Sorghum Partners Inc	X505	Bz	HY	67	E
Late Maturity					
Asgrow Seed	A567	Bz	Hy	71	None
Dekalb Genetics Corp.	DKS 54-00	Bz	HY	72	C,E,I
Walter Moss Seed Co. LTD	M-1024-DPW	W		S	75
Asgrow Seed	A571	Bz	HY	72	NONE
Dekalb Genetics Corp.	DKS 53-11	Bz	HY	S	71

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 Blackwell 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
		2006	Two-year	2006	Two-year		
Early							
Dekalb Genetics Corp.	DKS 37-07	58.2	61.5	57.9	56.0	30,000	1.24
Asgrow Seed	Pulsar	59.8	56.9	55.2	54.0	32,600	1.22
Dekalb Genetics Corp.	DKS 29-28	53.7	56.7	52.9	53.8	34,100	1.24
Frontier Hybrids	F 303 C	46.8	53.9	56.0	54.4	40,300	0.94
Frontier Hybrids	F 222 E	44.6	50.3	55.6	54.5	28,800	0.97
Sorghum Partners Inc	KS 310	50.4	----	55.6	----	34,000	0.97
Frontier Hybrids	F 270 E	48.5	----	55.3	----	30,000	1.00
Frontier Hybrids	F 305	45.9	----	56.4	----	29,300	0.97
	Mean	51.0	55.8	55.6	54.6	32,400	1.07
	C.V.%	9.9	16.5	0.9	4.1	12.2	10.60
	L.S.D.	7.4	NS	0.8	NS	5,800	0.17

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac	Head Population heads/ac
		2006	Two-year	2006	Two-year		
Medium and full							
Dekalb Genetics Corp.	DKS 42-20	68.3	67.5	56.0	55.5	22,900	1.81
Seed Resource	SR 421	49.0	63.6	57.1	55.2	36,000	0.96
NC+ Hybrids	6B50	53.9	62.3	55.8	54.6	38,600	1.05
Dekalb Genetics Corp.	DK 44	47.6	56.7	58.1	57.2	26,900	1.14
Walter Moss Seed Co. LTD	M-1024-DPW	41.5	53.8	56.5	55.7	27,200	1.04
Sorghum Partners Inc	KS 585	61.9	52.3	58.8	57.3	37,400	1.17
Dekalb Genetics Corp.	DK 44 WO	40.7	51.3	57.0	56.5	21,400	1.12
Sorghum Partners Inc	KS 585 WO	43.7	49.0	58.6	57.4	31,000	1.02
NC+ Hybrids	7R34	57.6	----	59.4	----	41,900	1.04
Garst Seed Company	5750	52.5	----	56.8	----	37,900	1.10
NC+ Hybrids	6C21	49.5	----	53.5	----	39,200	1.15
Dekalb Genetics Corp.	DKS 36-16	48.6	----	58.3	----	28,600	1.05
Seed Resource	SR 254	48.1	----	54.2	----	41,700	1.04
Sorghum Partners Inc	X505	44.4	----	55.5	----	37,200	0.91
	Mean	50.5	57.1	55.9	56.2	33,400	1.11
	C.V.%	14.0	19.4	1.7	1.4	14.7	9.80
	L.S.D.	10.1	11.1	1.2	0.8	7,000	0.16

Cooperator: Bill and Louise Rigdon Soil Series: Kirkland Silt Loam No-till Practices: Followed Soybean in 2005
 Soil Test: N: 10 P: 52 K: 458 pH: 5.1 Fertilizer: N: 125 lbs/ac + 5 gal/ac 10-34-0 with planter
 Planting Date: April 20, 2006 Target Population: 45,000 plants/ac Herbicide: 2 qt/ac Cinch ATZ Lite (Preemergence)
 Harvest Date: September 8, 2006

Monthly Rainfall (in.)

	Apr.	May	June	July	Aug.	Total
2006:	6.49	3.42	1.55	2.26	2.60	16.32
Long term mean:	3.28	5.83	4.05	2.68	3.19	19.03

Table 3. Results from Cherokee grain sorghum performance trial, 2006.

Company Brand Name	Entry Designation	Days To Midbloom	Grain Yield bu/ac			Test weight lb/bu			Plant Population plants/ac	Head Population heads/ac
			2006	Two-year	Three-year	2006	Two-year	Three-year		
Sorghum Partners Inc	KS 585	65	101.8	108.7	95.2	58.0	58.1	58.8	40,600	1.73
Dekalb Genetics Corp.	DKS 42-20	65	86.5	102.9	94.2	55.5	55.6	56.9	37,000	1.76
Dekalb Genetics Corp.	DK 44	62	96.8	103.6	93.1	55.9	55.6	56.9	31,700	1.91
Dekalb Genetics Corp.	DKs 37-07	60	105.6	103.7	92.5	56.9	56.9	57.8	26,900	2.51
Sorghum Partners Inc	KS 310	57	88.8	112.7	92.5	53.5	53.5	55.2	32,800	1.92
Frontier Hybrids, Inc	F-303 C	59	71.5	77.1	68.6	54.4	53.8	55.3	32,900	1.66
Sorghum Partners Inc	KS 585 WO	65	89.5	50.9	54.2	59.2	57.2	58.2	33,400	1.93
Dekalb Genetics Corp.	DK 44 WO	62	82.9	41.5	47.6	55.1	55.3	56.6	27,500	2.06
NC+ Hybrids	6B50	62	99.8	----	----	55.1	----	----	38,100	1.69
Garst Seed Company	5750	62	98.2	----	----	56.8	----	----	34,500	1.90
Seed Resource	SR 421	64	87.7	----	----	55.3	----	----	37,900	1.61
Frontier Hybrids	F 305	60	87.3	----	----	54.1	----	----	29,000	1.86
Sorghum Partners Inc	X505	67	86.2	----	----	55.4	----	----	37,800	1.32
Mean			91.0	87.6	79.7	55.8	55.7	57.0	33,900	1.84
C.V.%			12.0	36.1	36.4	2.0	1.9	1.8	11.3	16.60
L.S.D.			15.6	31.7	23.6	1.6	1.0	0.8	5,500	0.44

Note: CV% is high for two and three-year because plots without seed treatment never emerged in 2005 and means are figured with 0 yield for 2006.

Cooperator: Doug McMurtrey

Soil Series: Pond Creek Silt Loam

No-till Practices: fallowed after wheat in 2005

Soil Test: N: 16 P: 22 K: 271 pH: 6.1

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

Planting Date: April 20, 2006 Target Population: 45,000 plants/ac

Herbicide 2 qt/ac Cinch ATZ Lite Preemergence

Harvest Date: September 8, 2006

Monthly Rainfall (in.)

	Apr.	May	June	July	Aug.	Total
2006:	0.99	1.06	2.97	0.70	3.67	16.88
Long term mean:	3.28	5.83	4.05	2.68	3.19	19.03

Table 4. Results from Homestead grain sorghum performance trial, 2006.

Company Brand Name	Entry Designation	Days To Midbloom	Grain Yield bu/ac 2006	Test weight Lb/bu 2006	Plant Population plants/ac	Head Population heads/ac	
Garst Seed Company	5750	62	49.9	56.3	29,500	1.43	
Frontier Hybrids	F 305	60	49.6	55.0	31,700	1.05	
Sorghum Partners Inc	KS 585 WO	65	49.2	56.0	30,100	1.21	
NC+ Hybrids	6B50	62	45.1	53.2	33,400	1.11	
Dekalb Genetics Corp.	DKS 42-20	65	44.3	54.0	26,000	1.41	
Frontier Hybrids, Inc	F-303 C	59	44.1	55.3	32,000	1.11	
Sorghum Partners Inc	KS 585	65	43.2	57.6	30,900	1.23	
Dekalb Genetics Corp.	DKs 37-07	60	40.9	57.0	28,700	1.11	
Dekalb Genetics Corp.	DK 44 WO	62	39.8	56.9	29,400	1.03	
Sorghum Partners Inc	X505	67	37.8	55.1	32,300	1.10	
Seed Resource	SR 421	64	36.4	55.9	37,500	1.04	
Dekalb Genetics Corp.	DK 44	62	33.7	54.5	32,600	1.04	
Sorghum Partners Inc	KS 310	57	32.5	49.4	34,500	1.20	
			Mean	42.0	55.1	31,400	1.16
			C.V.%	19.1	2.7	13.0	11.40
			L.S.D.	11.5	2.2	5,900	0.19

Cooperator: Brook Strader
 Soil Series: Pratt Loamy Fine Sand
 No-till tillage Practices: Wheat sprayed in April 2006
 Soil Test: N: 66 P: 40 K: 448 pH: 5.3
 Fertilizer: N: 70 lbs N + 5 gal/ac 10-34-0 with planter
 Herbicide: Cinch ATZ Lite 2 qts/ac (Preemergence)
 Planting Date: April 20, 2006 Target Population: 45,000 plants/ac
 Harvest Date: September 7, 2006

Monthly Rainfall (in.)

	Apr.	May	June	July	Aug.	Total
2006:	1.47	1.64	2.39	3.42	3.33	12.25
Long term mean:	2.50	4.20	3.20	2.70	2.80	15.40

Table 5. Results from OPREC limited irrigation 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
Early					
Frontier Hybrids	F 303 C	138.6	60.8	50,900	1.26
Asgrow Seed	Pulsar	133.0	60.5	52,200	1.31
Dekalb Genetics Corp.	DKS 37-07	127.7	60.3	50,200	1.29
Frontier Hybrids	F 222 E	121.5	59.8	48,200	1.32
Dekalb Genetics Corp.	DKS 29-28	117.8	59.9	49,800	1.36
Frontier Hybrids	F 305	117.2	59.2	50,800	1.20
Sorghum Partners Inc	KS 310	115.1	59.5	50,400	1.33
Frontier Hybrids	F 270 E	114.6	59.1	44,800	1.28
Sorghum Partners Inc	NK 3303	88.3	59.6	41,700	1.35
	Mean	119.3	59.8	48.8	1.30
	C.V.%	13.1	1.7	8.6	8.7
	L.S.D.	19.1	NS	6,100	NS

Company Brand Name	Entry Designation	Grain Yield bu/ac	Test weight Lb/bu	Plant Population plants/ac	Head Population heads/ac
Medium					
Sorghum Partners Inc	KS 585 WO	141.3	60.8	52,700	1.30
Seed Resource	SR 421	134.4	58.3	49,500	1.17
Seed Resource	SR 254	131.9	58.2	54,300	1.19
Dekalb Genetics Corp.	DK 44	123.4	59.5	49,400	1.16
Sorghum Partners Inc	X505	123.4	59	52,600	1.13
Dekalb Genetics Corp.	DK 44 WO	122.1	59.2	46,300	1.20
Garst Seed Company	5360	119.6	58.6	53,900	1.06
Sorghum Partners Inc	KS 585	119.0	60.2	50,100	1.22
Garst Seed Company	5401	111.1	60.4	46,900	1.33
	Mean	125.1	59.3	50,600	1.20
	C.V.%	10.0	1.9	8.0	8.00
	L.S.D.	NS	0.5	NS	0.14

Table 5. Continued

Company Brand Name	Entry Designation	Grain Yield bu/ac	Test weight Lb/bu	Plant Population plants/ac	Head Population heads/ac
Late					
Asgrow Seed	A571	151.2	58.2	50,000	1.12
Asgrow Seed	A567	149.6	60.2	46,300	1.21
Dekalb Genetics Corp.	DKS 53-11	146.6	60.3	47,300	1.10
Dekalb Genetics Corp.	DKS 54-00	145.7	60.0	48,200	1.28
Walter Moss Seed Co. LTD	M-1024-DPW	119.2	57.4	42,600	1.14
	Mean	142.5	59.2	46,900	1.17
	C.V.%	8.6	1.7	6.9	6.50
	L.S.D.	18.8	0.7	NS	NS

Cooperator: OPREC

Soil Series: Richfield Clay Loam

Strip Tillage Practices: Planted following Soybean in 2005

Soil Test: N: 25 lbs/ac P: 18 K: 978 pH: 7.8

Fertilizer: N: 200 lbs N/ac P: 40 lbs P₂O₅/ac K: 0

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

Planting Date: June 7, 2006 Target Population: 50,000 plants/ac

Harvest Date: November 6, 2006

Monthly Rainfall (in.)

	May	June	July	Aug.	Sep.	Total
2006:	2.19	2.34	2.05	4.06	1.19	11.83
Long term mean:	3.25	2.86	2.58	2.28	1.77	12.74

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

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

Table 6. Results from Goodwell dryland grain sorghum performance trial, 2006.

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac
		2006	Two-year	2006	Two-year	
Early						
Asgrow Seed	Pulsar	63.2	62.4	50.0	53.9	20,000
Dekalb Genetics Corp.	DKS 37-07	49.5	56.6	44.0	51.3	18,200
Dekalb Genetics Corp.	DKS 29-28	61.6	55.9	52.8	55.1	17,700
Sorghum Partners Inc	KS 310	70.3	----	52.9	----	20,800
Frontier Hybrids	F 303 C	60.6	----	45.7	----	20,100
Frontier Hybrids	F 222 E	58.7	----	51.2	----	19,500
Frontier Hybrids	F 270 E	57.2	----	46.2	----	19,000
Frontier Hybrids	F 305	55.3	----	46.9	----	20,000
Sorghum Partners Inc	NK 3303	53.9	----	49.7	----	16,600
	Mean	58.9	58.2	48.8	53.4	19,100
	C.V.%	17.6	19.8	3.2	5.6	12.1
	L.S.D.	NS	NS	2.3	3.2	NS

Note: no head counts for dryland trial, wind storm 3 days prior to harvest lodged all sorghum

Company Brand Name	Entry Designation	Grain Yield bu/ac		Test weight lb/bu		Plant Population plants/ac
		2006	Two-year	2006	Two-year	
Medium and full						
Sorghum Partners Inc	KS 585	51.7	52.5	45.7	51.7	18,000
Sorghum Partners Inc	KS 585	49.8	50.6	46.9	52.2	18,200
Seed Resource	SR 421	36.0	47.7	42.3	49.0	18,200
Dekalb Genetics Corp.	DK 44	33.9	42.8	42.0	50.1	17,400
Dekalb Genetics Corp.	DK 44	31.9	41.3	42.8	50.6	16,400
Seed Resource	SR 254	52.3	----	41.7	----	21,000
Sorghum Partners Inc	X505	33.7	----	41.9	----	21,000
Walter Moss Seed Co. LTD	M-1024-DPW	14.1	----	40.5	----	15,900
	Mean	37.9	46.9	42.9	50.7	18,300
	C.V.%	18.3	19.2	2.6	3.3	8.7
	L.S.D.	10.2	9.2	1.7	1.7	2,300

Cooperator: OPREC
 Soil Test: N: 66 P: 29 K: 1,256 pH: 7.3
 Herbicide 2 qt/ac Cinch ATZ Lite Preemergence
 Target Population: 22,000 plants/ac
 Soil Series: Richfield Clay Loam
 Fertilizer: N: 50 lbs N/ac + 5 gal/ac 10-34-0 with planter
 Planting Date: June 7, 2006, replanted June 29
 Harvest Date: November 17, 2006
 No-till Practices: Following wheat 2005

Monthly Rainfall (in.)

	May	June	July	Aug.	Sep.	Total
2006:	2.19	2.34	2.05	4.06	1.19	11.83
Long term mean:	3.25	2.86	2.58	2.28	1.77	12.74

Table 7. Results from Tipton grain sorghum performance trial, 2006.

Company Brand Name	Entry Designation	Grain Yield bu/ac 2006	Test weight Lb/bu 2006	Plant Population plants/ac	Head Population heads/ac
Early					
Frontier Hybrids	F 222 E	19.6	57.2	32,100	1.05
Frontier Hybrids	F 270 E	25.3	56.7	34,800	1.09
Frontier Hybrids	F 303 C	26.8	55.8	35,800	1.06
Sorghum Partners Inc	KS 310	32.7	58.3	39,300	1.27
Asgrow Seed	Pulsar	35.2	54.6	35,600	1.41
Dekalb Genetics Corp.	DKS 37-07	27.1	54.8	37,200	0.98
Dekalb Genetics Corp.	DKS 29-28	34.3	55.7	40,000	1.17
Frontier Hybrids	F 305	30.5	55.5	35,300	1.11
	Mean	28.9	56.1	36,300	1.14
	C.V.%	18.3	1.8	9.2	13.5
	L.S.D.	7.8	1.5	NS	0.22

Note: Tipton medium and late hybrids were harvested, but data highly variable and not reported

Cooperator: Southwest Research and Extension Center
 Conventional Tillage Practices: Sorghum-fallow-sorghum rotation
 Fertilizer: N: 83 lbs/ac P: 0 K: 0
 Planting Date: April 21, 2006 Target Population: 45,000 plants/ac
 Harvest Date: August 10, 2006

Soil Series: Tipton Silt Loam
 Soil Test: N: 17 P: 85 K: 777 pH: 6.3
 Herbicide: 2 qt/ac Cinch ATZ Lite Preemergence

Monthly Rainfall (in.)

	Apr.	May	June	July	Total
2006:	2.91	2.70	0.49	1.09	7.19
Long term mean:	2.30	4.30	3.45	2.08	12.13