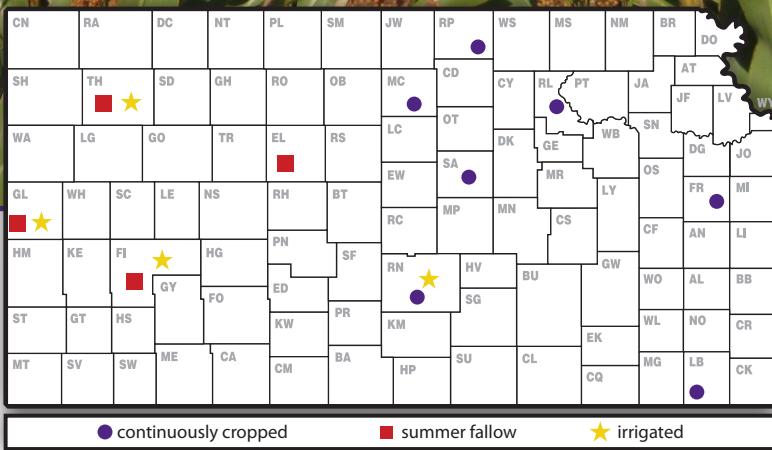


2013 Kansas Performance Tests with Grain Sorghum Hybrids



Report of Progress 1095



Kansas State University Agricultural Experiment Station and Cooperative Extension Service

TABLE OF CONTENTS

2013 Grain Sorghum Crop Review

Statewide Growing Conditions, Diseases, Insects, Harvest Statistics 1

2013 Performance Tests

Objectives and Procedures 2

Entrants in the 2013 Performance Tests Table 1 3

Northeast

Manhattan, Riley County	Table 2	4
Belleville, Republic County	Table 3	5
Beloit, Mitchell County	Table 4	6
2013 Yield Summary	Table 5	7
Multi-year Summary	Figure 4	8

Southeast

Ottawa, Franklin County	Table 6	9
Parsons, Labette County	Table 7	10
2013 Yield Summary	Table 8	11
Multi-year Summary	Figure 5	12

Central

Assaria, Saline County	Table 9	13
Hutchinson, Reno County	Table 10	14
2013 Yield Summary	Table 11	15

West

Hays, Ellis County	Table 12	16
Colby, Thomas County	Table 13	17
Tribune, Greeley County	Table 14	18
Garden City, Finney County	Table 15	19
2013 Yield Summary	Table 16	20
Multi-year Summary	Figure 6	21

Irrigated

Hutchinson, Reno County	Table 17	22
Colby, Thomas County	Table 18	23
Tribune, Greeley County	Table 19	24
Garden City, Finney County	Table 20	25
2013 Yield Summary	Table 21	26
Multi-year Summary	Figure 7	28

Entries in the 2013 Kansas Grain Sorghum Performance Tests

Table 22 29

Electronic Access, University Research Policy, and Duplication Policy back cover

2013 GRAIN SORGHUM CROP REVIEW

Statewide Growing Conditions

The 2013 Kansas grain sorghum growing season was a relief for many sorghum producers following years of less-than-favorable production. The wet weather during the spring that delayed corn planting meant that most areas of the state had adequate topsoil moisture to get the sorghum crop off to a good start by the time it was planted (Figure 1). The hot, dry weather during the summer months did cause heat and water stress, but in most cases the sorghum crop showed its natural tolerance to the extremes of Kansas summers. Relief came in early August with cooler temperatures and widespread rains that continued throughout grain fill and into maturity. As a result, grain drydown was extended well into the fall, and many fields required a freeze to be harvested.

The quality of the grain sorghum crop reflected the milder growing season and the majority of the crop remained in fair to excellent condition throughout the season (Figure 2).

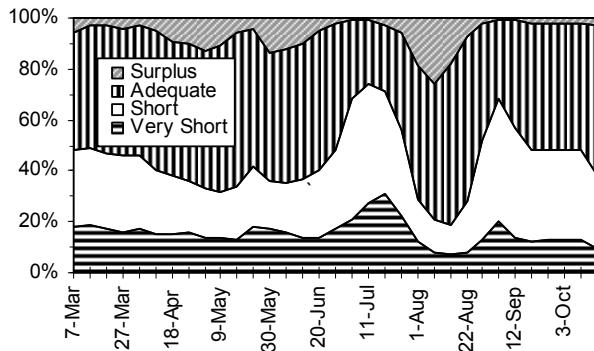


Figure 1. Statewide status of topsoil moisture

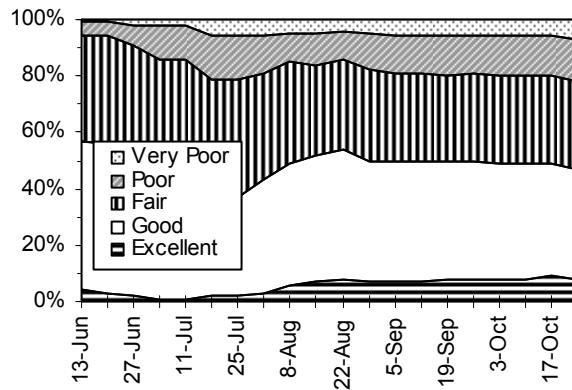


Figure 2. Condition of 2013 Kansas sorghum crop

(Crop-Weather Reports, Kansas Agricultural Statistics Service, Topeka)

Diseases

With the exception of stalk rots, disease pressure in the 2013 Kansas grain sorghum crop was minimal. Pythium seedling blight was identified in a few early planted fields.

Sooty stripe was present in some fields that received frequent rainfalls and that were planted to susceptible hybrids using no-till, continuous cropping practices. No fungicides are registered for control of this disease.

As in 2012, stalk rots were significant, with many fields lodging late in the season. Unlike 2012 when charcoal rot was prevalent, Fusarium stalk rot was most common in 2013. Fusarium is favored when conditions are dry mid-season then rain frequency increases during the grain fill period through maturity. The increased lodging due to stalk rot can offer producers the opportunity to truly evaluate the standability of hybrids and allow them to adjust their hybrid portfolio choices for the upcoming year. (Doug Jardine, Kansas State University Department of Plant Pathology)

Insects

2013 was a relatively pest-free year for sorghum. The growing season started hot and dry throughout much of the state, and many growers struggled to establish good stands. Chinch bugs were very plentiful in wheat and started to migrate to the nearby germinating sorghum from the wheat as it started to senesce. Initially, it looked like much sorghum was going to be affected because the nymphs were numerous and rapidly migrated to the seedlings, which they started to stress along with the hot, dry conditions; however, the weather changed and a period of cool, wet weather began. Chinch bug populations rapidly declined after this, and sorghum outgrew any damage. No other widespread sorghum pest problems were noted in 2013. (Jeff Whitworth, Kansas State University Department of Entomology)

Harvest Statistics

The Kansas Agricultural Statistics Service predicted a 195 million-bushel crop in the September 12 Crops Report, more than double from last year (Figure 3). The number of acres harvested was up 124% from 2012 at 2.6 million. The average yield estimate of 75 bushels per acre is 36 bushels higher than last year's yield. (Kansas Agricultural Statistics Service, Topeka)

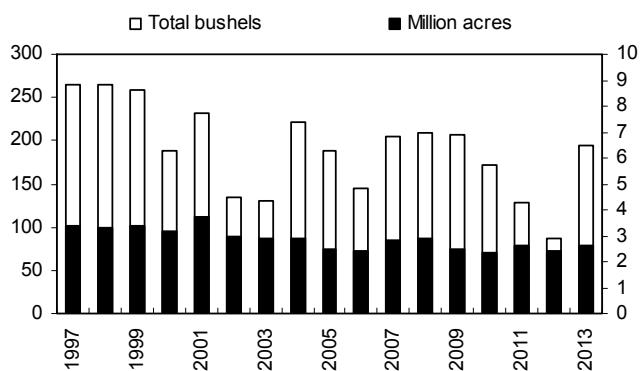


Figure 3. Historical Kansas grain sorghum production

2013 PERFORMANCE TESTS

Objectives and Procedures

Grain Sorghum Performance Tests, conducted annually by the Kansas Agricultural Experiment Station, provide farmers, extension workers, and seed industry personnel with unbiased agronomic information on many of the grain sorghum hybrids marketed in the state. Because entry selection and location are voluntary, not all hybrids grown in the state are included in tests, and the same group of hybrids is not grown at all test locations.

A summary of growing-season weather data is given in individual test discussions. These data are from the nearest weather-reporting station and often are supplemented with information from the test site. Precipitation graphs include cumulative lines for 2013 and the 30-year normal in addition to daily rainfall amounts since last fall. Temperature graphs include daily maximum and minimum temperatures compared with normal. General trends in precipitation and temperature relative to normal are readily observed in the graphs. A table with monthly totals and averages for the growing season also is included.

The growth unit or growing degree day concept was developed to measure the amount of heat available for growth and maturation. To calculate the daily growing degree day accumulation, add the maximum temperature and the minimum temperature for each day, divide by 2, and subtract a base temperature of 35°F. Any temperature below 35°F was considered to be 35°F.

Explanatory information precedes data summaries for each test. Tables 2 through 20 contain results from the individual performance tests. Hybrids are listed in order of increasing days to half bloom when that information is available, so hybrids of similar maturity appear together.

Figures 4 through 7 graphically summarize yield and maturity information over the past 3 years for each region. In these figures, hybrid performance is standardized by using the average of two check hybrids present in every test. The number beside each bar shows the number of tests in which a given hybrid was compared with the check hybrids. Symbols beside each bar indicate if performance of a hybrid was significantly greater (+) or lower (-) than the average performance of the check hybrids. As with individual test results, small differences should not be overemphasized. Relative ranking and large differences are better indicators of performance.

Most tests were planted at a rate 25 to 30% greater than the desired population and thinned only to remove doubles. Planting to stand enables evaluation of product performance for the entire growing season.

Three or four plots (replications) of each hybrid were grown in a randomized complete block design at each location. Each harvested plot consisted of two rows trimmed to a specific length ranging from 20 to 30 feet at the different locations.

Grain yields are reported as bushels per acre of shelled grain (56 lb/bu) adjusted to a moisture content of 12.5%. Yields also are presented as a percentage of test average to speed recognition of highest-yielding hybrids. Hybrids yielding more than 100% of the test average year after year merit consideration. Adaptation to individual farms for appropriate maturity, stalk strength, and other factors must also be considered.

The percentage of lodged stalks is reported when appropriate. Both broken stalks and stalks leaning more than 45 degrees from vertical were considered lodged, although most were harvestable with modern machinery. Severely lodged stalks or dropped heads that could not be picked up by normal harvest procedures were not included in yield. Because harvest often is delayed until the latest-maturing entries are ripe, early and mid-season hybrids could lodge simply because they must wait well past their optimum harvest date.

Relative maturity is measured in terms of both number of days from planting to half bloom and grain moisture at harvest. Maturity can be critical when considering a sorghum hybrid for a specific cropping system.

Small differences in yield or other characteristics should not be overemphasized. Least significant differences (LSD) are shown at the bottom of each table. Unless two entries differ by at least the LSD shown, little confidence can be placed in one being superior to the other.

The coefficient of variability (CV) can be used to estimate the degree of confidence one can have in published data from replicated tests. In this testing program, a CV of less than 10% generally indicates reliable, uniform data, whereas a CV of 10 to 15% is not uncommon and usually indicates that data are acceptable for the rough performance comparisons desired from these tests. Tests with a CV greater than 15% still may be useful, especially in situations with low yields.

Table 1. Entrants in the 2013 Kansas Grain Sorghum Performance Tests

Asgrow/DeKalb Monsanto Seed St. Louis, MO 800-335-2676 www.asgrow.com	Channel Bio Lincoln, NE 800-279-7999 channelbio.com	Pioneer Brand Pioneer Hi-Bred, Intl., Inc. Lincoln, NE 800-228-4050 pioneer.com	Richardson Seeds Vega, TX 806-267-2528 nuseed.com
Advanta US Amarillo, TX 806-445-6282 advantaus.com	Gayland Ward Seed Hereford, TX 806-258-7394 gaylandwardseed.com	Polansky Seed, Inc. Belleville, KS 785-527-2271 polanskyseed.com	Triumph Seed Co., Inc. Ralls, TX 806-253-2584 triumphseed.com
B-H Genetics Ganado, TX 361-771-2755 bhgenetics.com	Golden Acres Genetics Waco, TX 254-761-9838 gaseed.com		

NORTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

Agronomy North Farm, Manhattan; Jane Lingenfelser, agronomist

Reading silt loam; Soybean in 2012

150 - 0 - 0 lb/a N, P, K

Planted on 5/16/2013; Harvested on 9/10/2013

Target stand of 55,000 plants/acre; 3.8 in. spacing

Good conditions throughout growing season. Some bird feeding at the end of August.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	3.1	5.1	38	30		
April	3.5	2.6	50	53	825	575
May	3.9	4.5	64	64	914	918
June	3.5	5.1	75	73	1226	1158
July	1.5	4.0	77	79	1340	1369
August	0.9	3.5	77	78	1284	1317
Sept.	4.1	3.8	73	70	1048	1035
Oct.	4.3	2.3	56	53	443	387
Totals:	24.8	30.9	55	52	7,080	6,759

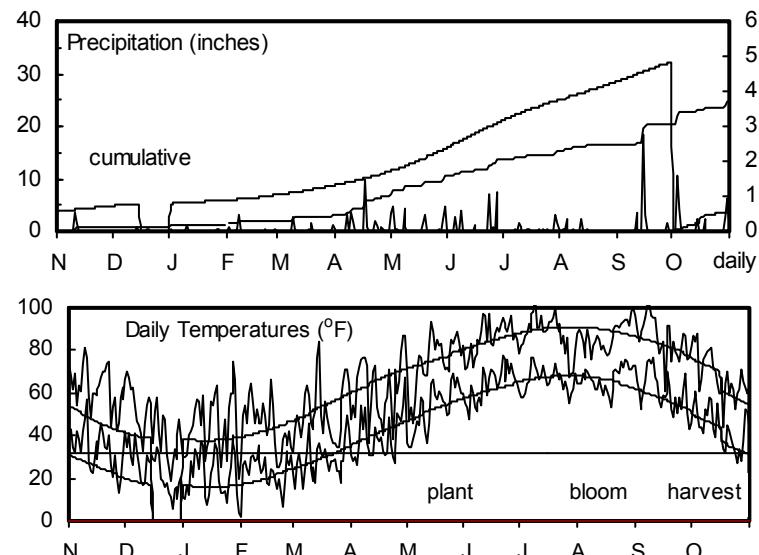


Table 2. Riley County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	YIELD AS % 2012-2013																
		ACRE YIELD, BUSHELS				OF TEST		Days	Grain	Days	Grain	Test	Plnt	Pop	Hds			
		2013	2012	2011	Avg.	2-yr.	3-yr.	AVERAGE	blm	%	to moist	to moist	wt	Ht	Ldg	1000 ppa	per plnt	
ADVANTA US	AG2104	131	--	--	--	98	--	--	--		58	20	60	4	16	54	1	
MATURITY CHECK	EARLY	122	83	73	102	93	91	84	75	65	19	61	21	60	4	10	57	1
MATURITY CHECK	MEDIUM	146	97	92	121	112	109	98	94	66	21	61	22	60	4	8	58	1
ADVANTA US	AG2115	132	--	--	--	99	--	--	--		62	19	60	4	11	66	1	
PIONEER	85G03	129	105	98	117	111	97	106	100	66	20	64	21	59	5	8	56	1
ADVANTA US	AG2103	133	--	--	--	99	--	--	--		64	21	59	4	11	56	1	
DEKALB	DKS38-88	129	--	--	--	97	--	--	--		64	19	61	4	28	57	1	
GOLDEN ACRES	GA 5556	133	101	--	117	--	100	102	--	66	19	64	25	58	4	33	59	1
MYCOGEN	737	120	--	--	--	90	--	--	--		65	19	60	4	16	57	1	
RICHARDSON	92123	121	--	--	--	90	--	--	--		65	19	60	4	28	47	1	
ADVANTA US	AG2102	150	--	--	--	112	--	--	--		67	22	59	4	16	60	1	
ADVANTA US	AG2101	119	--	--	--	89	--	--	--		67	24	58	4	23	65	1	
GOLDEN ACRES	GA 5613	112	--	--	--	84	--	--	--		67	16	61	5	25	54	1	
GOLDEN ACRES	GA 3545	136	99	--	118	--	102	100	--	68	18	68	19	60	4	8	59	1
PIONEER	85Y40	139	114	104	126	119	104	116	106	69	21	68	21	60	5	21	61	1
RICHARDSON	0413	128	--	--	--	96	--	--	--		68	21	59	5	15	57	1	
ADVANTA US	XG1213	146	--	--	--	110	--	--	--		68	23	59	5	11	47	1	
DEKALB	DKS44-20	143	97	103	120	114	107	98	105	67	20	68	28	58	4	5	42	1
MYCOGEN	697	140	--	--	--	105	--	--	--		68	20	60	4	14	54	1	
PIONEER	84G62	154	117	108	136	126	115	119	111	68	22	68	21	60	4	11	57	1
PIONEER	84P80	141	110	112	125	121	105	111	114	69	19	68	21	59	4	21	53	1
DEKALB	DKS51-01	130	100	--	115	--	97	101	--	69	21	69	22	60	5	11	56	1
GAYLAND WARD	GW9417	137	--	--	--	102	--	--	--		69	19	60	5	28	53	1	
MATURITY CHECK	LATE	134	95	103	115	111	100	96	105	69	21	69	21	59	4	16	61	1
DEKALB	DKS53-67	131	106	106	119	114	98	107	108	69	22	69	22	59	4	24	63	1
RICHARDSON	96173	134	--	--	--	100	--	--	--		69	22	59	5	14	47	1	
RICHARDSON	50113	128	--	--	--	96	--	--	--		71	21	60	4	11	56	1	
RICHARDSON	06173	144	--	--	--	108	--	--	--		74	22	59	6	16	66	1	
RICHARDSON	68653	132	--	--	--	99	--	--	--		74	25	59	5	28	43	1	
Average		134	99	98	116	110	100	100	100	68	20	67	21	60	4	17	56	1
CV (%)		8	10	6	--	--	8	10	6	--	--	2	15	2	2	--	6	4
LSD (0.05)		16	14	9	--	--	12	14	9	--	--	1	5	1	0	19	5	0

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

NORTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

North Central Kansas Exp. Field, Belleville; Randall Nelson, agronomist; Michael Larson and Doug Stensaas, technicians

Crete silt loam; Soybean in 2012

150 - 20 - 0 lb/a N, P, K

Planted on 5/13/2013; Harvested on 11/13/2013

Target stand of 50,000 plants/acre; 4.2 in. spacing

Dry after planting and during flowering.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	3.0	4.0	33	27		
April	3.3	1.7	46	52	577	534
May	4.8	2.3	62	63	897	886
June	2.2	3.6	73	73	1110	1149
July	3.3	4.7	76	78	1214	1368
August	3.9	3.4	76	77	1233	1310
Sept.	1.9	3.3	71	68	1059	987
Oct.	2.5	2.6	54	51	415	375
Totals:	24.7	25.6	52	50	6,505	6,609

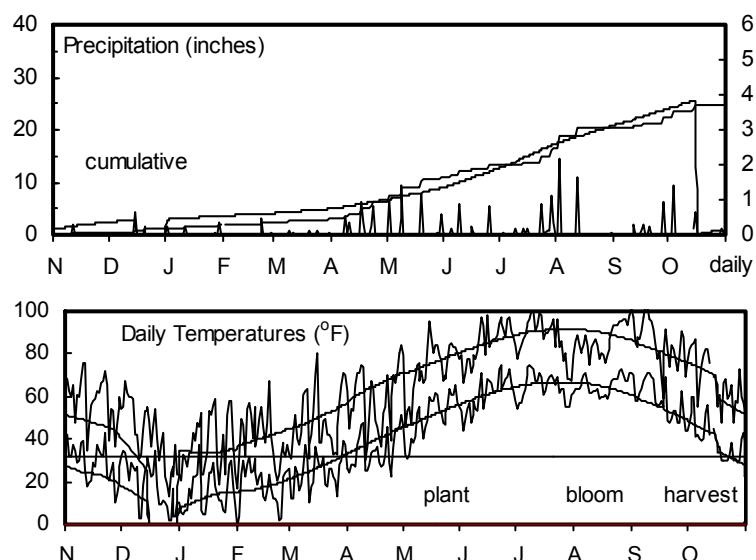


Table 3. Republic County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	ACRE YIELD, BUSHELS						YIELD AS % 2012-2013								
		2-yr. AVERAGE			3-yr. AVG.			OF TEST			Days to moist blm					
		2013	2012	2011	Avg.	2013	2012	2011	Grain %	Days to moist blm	Grain %	Test wt lb/bu	Plnt ht in	Ldg %	Pop 1000 ppa	Hds per plnt
ADVANTA US	AG2102	121	--	--	--	107	--	--	--	--	14	57	--	5	--	
ADVANTA US	AG2103	124	--	--	--	110	--	--	--	--	16	60	--	4	--	
ADVANTA US	AG2115	106	--	--	--	94	--	--	--	--	15	59	--	5	--	
ADVANTA US	XG1213	96	--	--	--	85	--	--	--	--	16	60	--	5	--	
DEKALB	DKS38-88	119	--	--	--	105	--	--	--	--	16	60	--	13	--	
DEKALB	DKS44-20	125	122	157	123	135	110	115	124	65	15	--	16	61	--	
DEKALB	DKS51-01	121	108	--	115	--	107	101	--	72	15	--	15	60	--	
DEKALB	DKS53-67	148	89	154	118	130	131	84	122	78	15	--	16	61	--	
GAYLAND WARD SEED	GW9417	86	--	--	--	76	--	--	--	--	16	59	--	18	--	
GAYLAND WARD SEED	EXP 8016	98	--	--	--	87	--	--	--	--	17	59	--	40	--	
GAYLAND WARD SEED	EXP 8017	120	--	--	--	106	--	--	--	--	17	61	--	28	--	
GAYLAND WARD SEED	EXP 8018	117	--	--	--	104	--	--	--	--	15	58	--	7	--	
GAYLAND WARD SEED	EXP 8022	119	--	--	--	105	--	--	--	--	15	58	--	0	--	
GAYLAND WARD SEED	EXP 9010	108	--	--	--	96	--	--	--	--	16	58	--	25	--	
GAYLAND WARD SEED	EXP 9058	121	--	--	--	107	--	--	--	--	16	59	--	18	--	
GAYLAND WARD SEED	EXP 9059	97	--	--	--	86	--	--	--	--	15	59	--	24	--	
GAYLAND WARD SEED	GW9320	115	--	--	--	102	--	--	--	--	16	60	--	22	--	
GAYLAND WARD SEED	GW9480	101	--	--	--	89	--	--	--	--	16	59	--	27	--	
GOLDEN ACRES	GA 5613	111	--	--	--	98	--	--	--	--	16	60	--	17	--	
GOLDEN ACRES	GA 3545	133	115	146	124	131	118	108	116	71	16	--	16	60	--	
GOLDEN ACRES	GA 5556	107	104	137	105	116	95	98	108	71	16	--	16	60	--	
MATURITY CHECK	EARLY	76	128	95	102	100	68	121	75	69	17	--	17	58	--	
MATURITY CHECK	LATE	143	88	149	115	127	127	83	118	75	17	--	17	61	--	
MATURITY CHECK	MEDIUM	66	99	125	82	97	58	93	99	69	18	--	16	60	--	
MYCOGEN	697	95	--	--	--	85	--	--	--	--	15	59	--	1	--	
MYCOGEN	737	118	--	--	--	105	--	--	--	--	14	59	--	5	--	
PIONEER	84G62	125	126	153	125	135	110	118	121	75	18	--	16	60	--	
PIONEER	84P80	134	114	118	124	122	119	107	93	76	16	--	17	60	--	
PIONEER	85G03	125	104	125	115	118	111	98	99	68	16	--	16	59	--	
PIONEER	85Y40	118	98	102	108	106	105	92	80	69	16	--	16	61	--	
POLANSKY	GS728	95	--	--	--	84	--	--	--	--	14	60	--	17	--	
POLANSKY	GS761	113	--	--	--	100	--	--	--	--	16	59	--	23	--	
RICHARDSON	413	122	--	--	--	109	--	--	--	--	15	58	--	8	--	
RICHARDSON	6173	118	--	--	--	105	--	--	--	--	16	60	--	7	--	
RICHARDSON	50113	98	--	--	--	87	--	--	--	--	15	61	--	13	--	
RICHARDSON	68653	119	--	--	--	106	--	--	--	--	16	59	--	32	--	
RICHARDSON	92123	96	--	--	--	85	--	--	--	--	14	59	--	4	--	
RICHARDSON	96173	132	--	--	--	117	--	--	--	--	16	60	--	9	--	
Average		113	107	126	110	115	100	100	100	72	--	16	59	--	12	--
CV (%)		8	10	8	--	--	8	10	8	16	--	7	2	--	105	--
LSD (0.05)		15	19	16	--	--	13	17	13	--	--	2	1	--	20	--

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

NORTH CENTRAL DRYLAND GRAIN SORGHUM TEST

Farmer's field, Beloit; Randall Nelson, agronomist; Michael Larson and Doug Stensaas, technicians

Harney silt loam; Corn in 2012

80 - 0 - 0 lb/a N, P, K

Planted on 6/14/2013; Harvested on 10/13/2013

Target stand of 50,000 plants/acre; 4.2 in. spacing

Dry weather after planting caused emergence and stand issues.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	3.7		35	37		
April	4.0		48	56	333	424
May	3.5		63	65	468	835
June	4.1		74	75	597	1197
July	7.2		76	81	916	1369
August	1.9		77	80	1165	1242
Sept.	1.5		72	71	1193	971
Oct.	1.0		55	53	589	400
Totals:	26.9		53	56	5,261	6,438

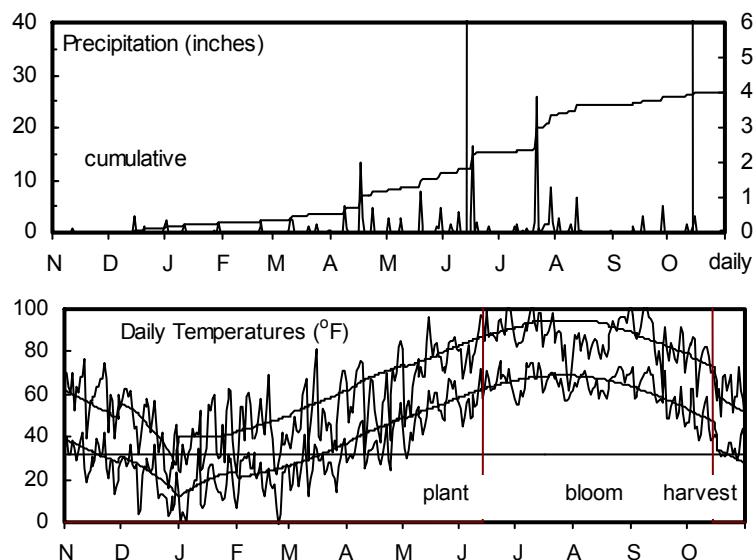


Table 4. Mitchell County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	YIELD AS % 2012-2013															
		ACRE YIELD, BUSHELS				OF TEST		Days	Grain	Days	Grain	Test	Plnt	Pop	Hds		
		2013	2012	2011	Avg.	2-yr.	3-yr.	AVERAGE	blm	%	blm	%	lb/bu	ht	Ldg	1000	per
DEKALB	DKS38-88	109		--		105		--		--		15		61		--	
	DKS44-20	84		22		53		81		67		--		15		62	
	DKS51-01	109		--		--		105		--		--		15		61	
	DKS53-67	131		87		109		--		127		268		--		16	
GAYLAND WARD SEED	EXP 9058	109		--		--		105		--		--		15		61	
	GOLDEN ACRES	90		--		--		87		--		--		15		61	
	GOLDEN ACRES	86		60		73		83		183		--		15		60	
	GOLDEN ACRES	94		--		--		91		--		--		15		60	
MATURITY CHECK	EARLY	89		8		49		86		25		--		15		62	
	LATE	137		48		93		133		148		--		15		62	
	MEDIUM	77		43		60		74		131		--		15		61	
MYCOGEN	697	113		--		--		109		--		--		14		61	
	737	108		--		--		104		--		--		14		60	
PIONEER	84G62	118		15		67		114		46		--		15		62	
	84P80	116		13		64		112		41		--		15		62	
	85G03	101		59		80		98		181		--		15		60	
	85Y40	113		33		73		109		100		--		15		61	
POLANSKY	GS538W	72		--		--		70		--		--		14		61	
	GS718	112		--		--		108		--		--		15		62	
Average		104		33		68		100		100		--		15		61	
CV (%)		13		9		--		13		9		--		4		1	
LSD (0.05)		22		5		--		21		14		--		1		1	
				8		--						8		--			

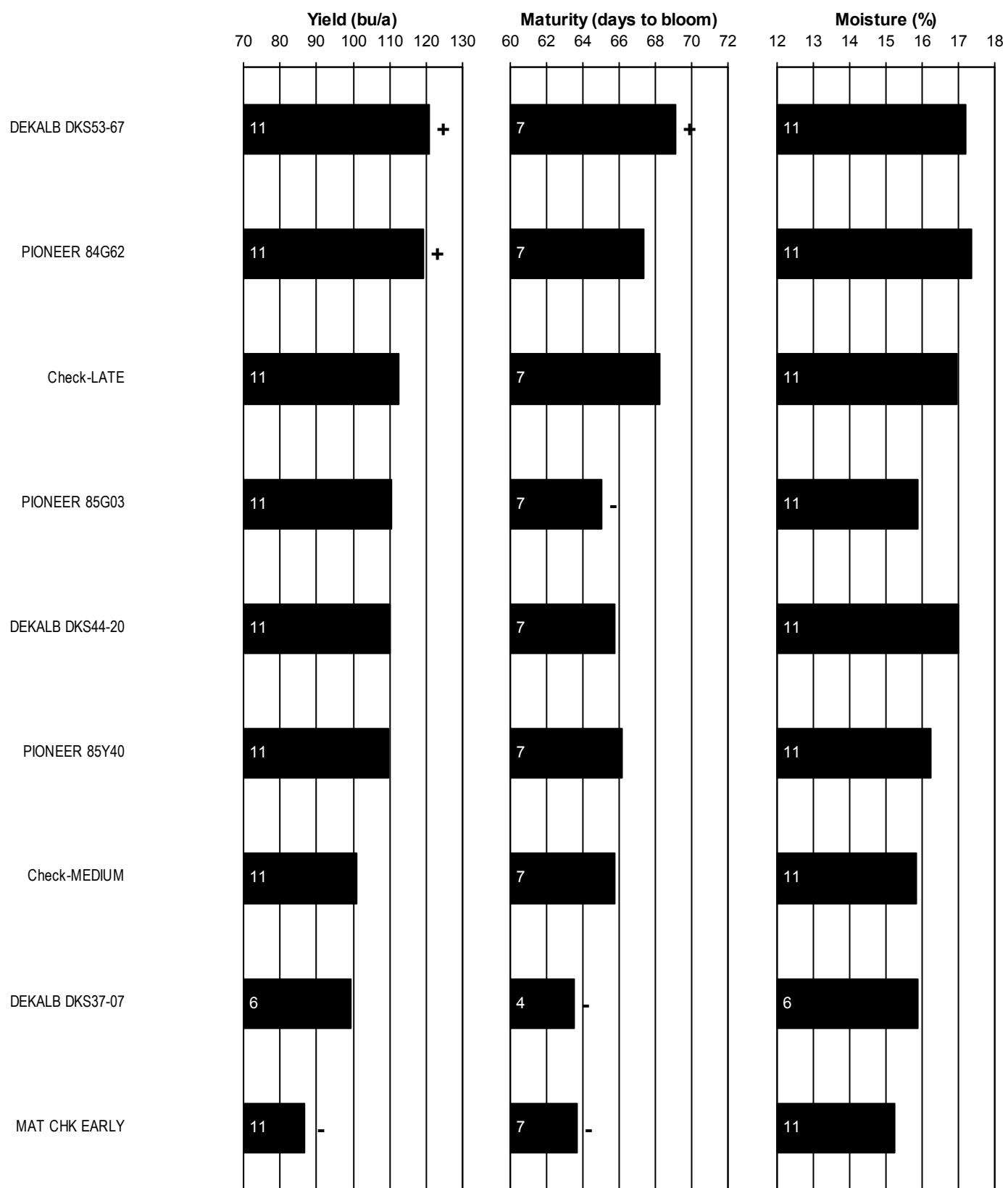
*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

Table 5. NORTHEAST Kansas Grain Sorghum Hybrid Yield Summary (% of test avg.), 2013

BRAND/NAME	RLD	RPD	MTD	AVG.	BRAND/NAME	RLD	RPD	MTD	AVG.
ADVANTA US									
AG2101	89	--	--	--	PIONEER				
AG2102	112	107	--	--	84G62	115	110	114	113
AG2103	99	110	--	--	84P80	105	119	112	112
AG2104	98	--	--	--	85G03	97	111	98	102
AG2115	99	94	--	--	85Y40	104	105	109	106
XG1213	110	85	--	--					
DEKALB									
DKS38-88	97	105	105	102	POLANSKY				
DKS44-20	107	110	81	100	GS538W	--	--	70	--
DKS51-01	97	107	105	103	GS718	--	--	108	--
DKS53-67	98	131	127	119	GS728	--	84	--	--
					GS761	--	100	--	--
GAYLAND WARD									
EXP 8016	--	87	--	--	RICHARDSON				
EXP 8017	--	106	--	--	0413	96	109	--	--
EXP 8018	--	104	--	--	06173	108	105	--	--
EXP 8022	--	105	--	--	50113	96	87	--	--
EXP 9010	--	96	--	--	68653	99	106	--	--
EXP 9058	--	107	105	--	92123	90	85	--	--
EXP 9059	--	86	--	--	96173	100	117	--	--
GW9320	--	102	--	--					
GW9417	102	76	--	--	MATURITY CHECK				
GW9480	--	89	--	--	EARLY	91	68	86	82
					LATE	100	127	133	120
GOLDEN ACRES									
GA 3545	102	118	--	--	MEDIUM	109	58	74	81
GA 5515	--	--	87	--	AVERAGES (bu/a)	134	113	104	117
GA 5556	100	95	--	--	CV (%)	8	8	13	--
GA 5613	84	98	--	--	LSD (0.05)	12	13	21	--
GA 5745	--	--	83	--					
H-390W	--	--	91	--					
MYCOGEN									
697	105	85	109	100					
737	90	105	104	99					

* RLD = Riley Co., Manhattan RPD = Republic Co., Belleville MTD = Mitchell Co., Beloit



Values inside bars indicate the number of comparisons with checks. Symbols (+, -, *) indicate if statistically higher or lower than mean of checks.

Figure 4. NORTHEAST Kansas sorghum hybrid standardized performance summary, 2011-2013

SOUTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

East Central Kansas Experiment Field, Ottawa; Eric Adee, agronomist; Jim Kimball, technician

Woodson silt loam; Soybean in 2012

120 - 40 - 0 lb/a N, P, K

Planted on 5/14/2013; Harvested on 10/22/2013

Target stand of 55,000 plants/acre; 3.8 in. spacing

Good emergence and generally favorable conditions during the summer.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	9.4	5.6	36	32		
April	3.7	2.9	47	56	589	634
May	4.6	4.1	62	65	909	953
June	6.0	4.9	73	74	1130	1186
July	2.4	4.0	76	80	1233	1401
August	5.2	3.2	75	79	1210	1362
Sept.	2.4	4.0	70	71	1050	1062
Oct.	3.9	2.1	56	55	457	416
Totals:	37.5	30.8	54	53	6,578	7,014

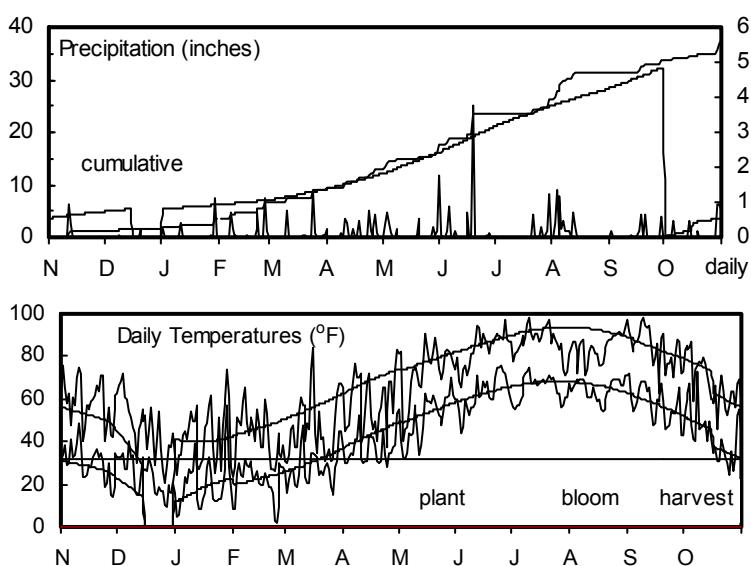


Table 6. Franklin County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	YIELD AS % 2012-2013															
		ACRE YIELD, BUSHELS				OF TEST											
		2013	2012	2011	Avg.	2-yr. AVERAGE	Days to blm	Grain %	Days to moist blm	Grain %	Test wt lb/bu	Plnt ht in	Ldg %	Pop 1000 ppa	Hds per plnt		
DEKALB	DKS38-88	143	--	--	--	96	--	--	--	66	13	61	--	--	60	--	
MATURITY CHECK	EARLY	145	45	62	95	84	97	108	86	67	13	66	13	61	--	57	--
MATURITY CHECK	MEDIUM	144	64	70	104	93	96	151	97	66	12	66	12	61	--	61	--
PIONEER	85G03	135	57	66	96	86	90	136	92	68	13	66	13	61	--	54	--
DEKALB	DKS44-20	153	56	82	105	97	103	134	114	66	13	67	12	62	--	52	--
PIONEER	85Y40	155	49	74	102	93	104	116	102	68	13	67	12	61	--	56	--
DEKALB	DKS49-45	158	27	69	93	85	106	63	96	73	13	69	12	61	--	54	--
PIONEER	84G62	157	14	80	86	84	105	33	111	74	13	70	12	61	--	58	--
PIONEER	84P80	159	31	82	95	91	107	75	114	74	13	70	12	61	--	58	--
MYCOGEN	737	143	--	--	--	--	96	--	--	--	--	70	12	60	--	59	--
MYCOGEN	697	139	--	--	--	--	93	--	--	--	--	71	12	61	--	52	--
DEKALB	DKS53-67	151	34	82	93	89	101	80	115	75	13	72	13	62	--	60	--
MATURITY CHECK	LATE	157	31	76	94	88	105	73	106	74	13	72	12	62	--	60	--
Average		149	42	72	96	88	100	100	100	71	13	68	12	61	--	57	--
CV (%)		6	11	11	--	--	6	11	11	--	--	1	7	1	--	3	--
LSD (0.05)		13	7	11	--	--	9	7	11	--	--	1	1	1	--	2	--

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

SOUTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

Southeast Agricultural Research Center, Parsons; Kelly Kusel, technician

Parsons silt loam; Sorghum in 2012

125 - 15 - 15 lb/a N, P, K

Planted on 6/12/2013; Harvested on 11/14/2013

Target stand of 45,000 plants/acre; 4.6 in. spacing

Dry and hot early; late July and early Aug. rain saved the test. Slow drydown due to late planting.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	9.6	10.3	40	39		
April	5.8	3.7	50	57	626	668
May	9.3	5.0	63	65	919	952
June	5.6	4.8	75	74	1158	1178
July	4.0	3.6	78	80	1256	1385
August	6.0	3.8	76	79	1251	1345
Sept.	2.5	4.5	72	71	1077	1075
Oct.	6.8	1.9	56	30	445	421
Totals:	49.6	37.5	56	54	6,732	7,022

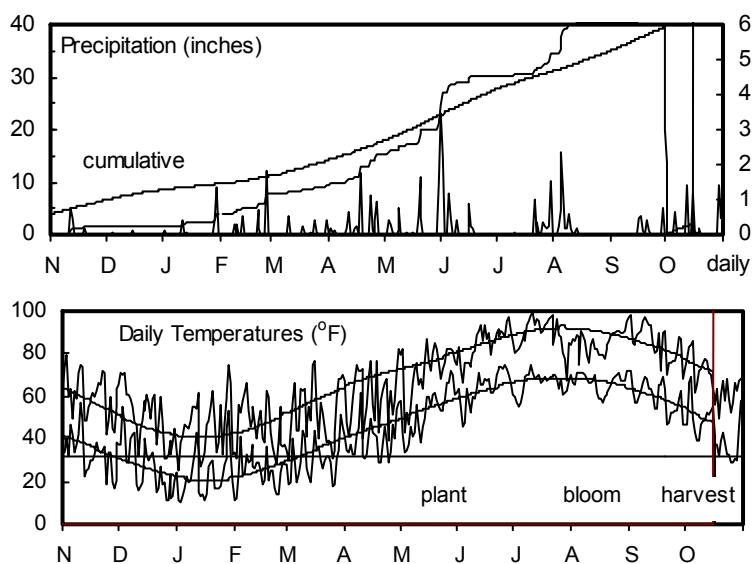


Table 7. Labette County Dryland Grain Sorghum Performance Test, 2011-2013

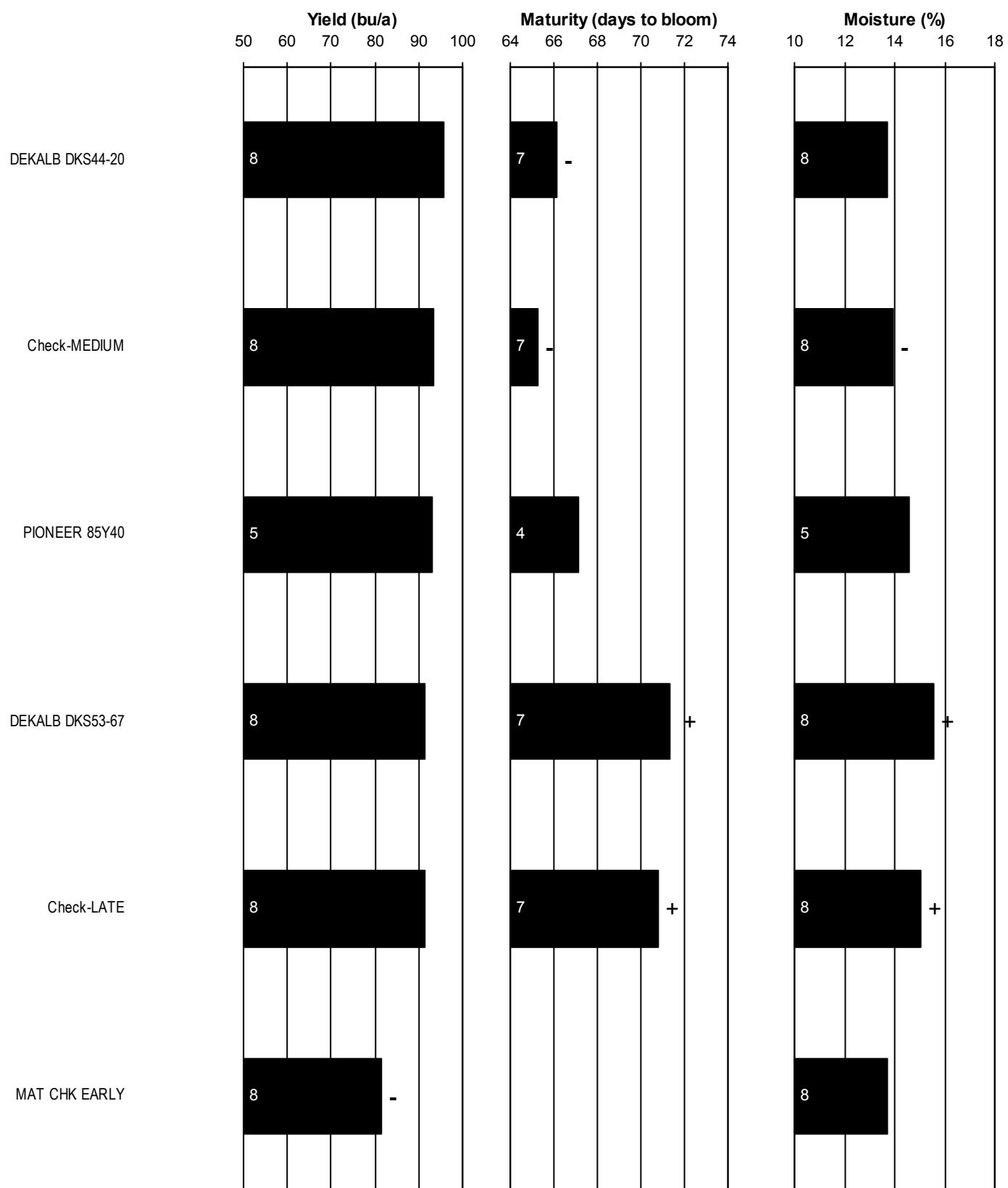
BRAND	NAME	YIELD AS % 2012-2013																	
		ACRE YIELD, BUSHELS				OF TEST		Days	Grain	Days	Grain	Test	Plnt	Pop	Hds				
		2013	2012	2011	Avg.	2-yr.	3-yr.	AVERAGE	to moist	to moist	wt	ht	Ldg	1000 ppa	per plnt				
MATURITY CHECK	EARLY	122	26	--	74	--		97	--	58	15	58	15	60	56	--	61	1	
DEKALB	DKS38-88	135	--	--	--	--		107	--	--	--	59	15	60	57	--	63	1	
MATURITY CHECK	MEDIUM	116	36	--	76	--		92	140	--	59	13	59	15	60	53	--	62	1
DEKALB	DKS44-20	134	34	--	84	--		107	130	--	60	13	60	16	59	56	--	56	1
ADVANTA US	AG2104	105	--	--	--	--		83	--	--	--	--	61	15	60	50	--	56	1
ADVANTA US	AG2102	126	--	--	--	--		100	--	--	--	--	62	15	60	50	--	59	1
ADVANTA US	AG2115	126	--	--	--	--		100	--	--	--	--	62	15	60	52	--	52	1
ADVANTA US	XG1213	119	--	--	--	--		94	--	--	--	--	63	15	60	56	--	43	1
DEKALB	DKS49-45	134	20	--	77	--		106	79	--	62	14	63	15	60	60	--	59	1
MYCOGEN	737	116	--	--	--	--		92	--	--	--	--	63	15	60	51	--	57	1
DEKALB	DKS53-67	148	35	--	91	--		117	137	--	65	14	65	15	60	55	--	65	1
MATURITY CHECK	LATE	143	--	--	--	--		113	--	--	--	--	65	15	60	55	--	64	1
MYCOGEN	697	116	--	--	--	--		92	--	--	--	--	65	15	59	54	--	57	1
Average		126	26	--	76	--		100	100	--	61	14	62	15	60	54	--	58	1
CV (%)		8	13	--	--	--		8	13	--	--	--	2	1	0	2	--	6	4
LSD (0.05)		14	5	--	--	--		11	18	--	--	--	2	0	0	2	--	5	0

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

Table 8. SOUTHEAST Kansas Grain Sorghum Hybrid Yield Summary (% of test avg.), 2013

BRAND/NAME	FRD	LBD	AVG.
ADVANTA US			
AG2102	--	100	--
AG2104	--	83	--
AG2115	--	100	--
XG1213	--	94	--
DEKALB			
DKS38-88	96	107	101
DKS44-20	103	107	105
DKS49-45	106	106	106
DKS53-67	101	117	109
MYCOGEN			
697	93	92	93
737	96	92	94
PIONEER			
84G62	105	--	--
84P80	107	--	--
85G03	90	--	--
85Y40	104	--	--
MATURITY CHECK			
EARLY	97	97	97
LATE	105	113	109
MEDIUM	96	92	94
AVERAGES (bu/a)	149	126	138
CV (%)	6	8	--
LSD (0.05)	9	11	--



Values inside bars indicate the number of comparisons with checks. Symbols (+,-) indicate if statistically higher or lower than mean of checks.

Figure 5. SOUTHEAST Kansas sorghum hybrid standardized performance summary, 2011-2013

CENTRAL KANSAS DRYLAND GRAIN SORGHUM TEST

Clayton Short farm, Assaria; Jane Lingenfelser, agronomist

Hord silt loam; Soybean in 2012

100 - 0 - 0 lb/a N, P, K

Planted on 5/15/2013; Harvested on 9/18/2013

Target stand of 50,000 plants/acre; 4.2 in. spacing

Timely rains in July and August saved the test after very dry weather in June.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	4.3	6.9	38	37		
April	2.3	3.0	50	55	648	593
May	7.0	5.1	65	65	970	923
June	2.2	4.2	77	75	1191	1211
July	5.8	4.3	79	81	1279	1431
August	5.0	3.5	78	80	1283	1394
Sept.	1.6	2.5	74	71	1131	1072
Oct.	1.2	1.3	57	30	465	407
Totals:	29.5	30.9	56	54	6,967	7,031

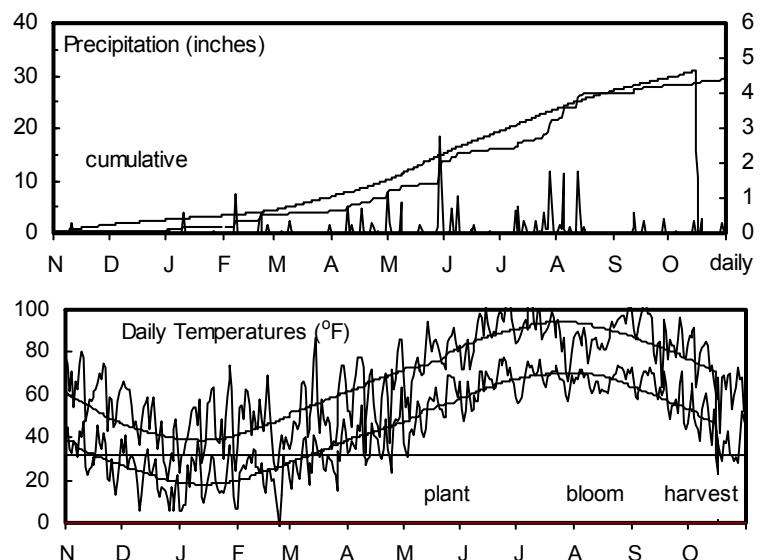


Table 9. Saline County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	YIELD AS % 2012-2013																	
		ACRE YIELD, BUSHELS				OF TEST		Days	Grain	Days	Grain	Test	Plnt	Pop	Hds				
		2013	2012	2011	Avg.	2-yr.	3-yr.	AVERAGE	to moist	to moist	wt	ht	Ldg	1000 ppa	per plnt				
DEKALB	DKS37-07	118		26		72		95	--		96	--	--	20	59	44	30	47	1
DEKALB	DKS38-88	114		--		--		92	--		--	--	--	21	59	47	24	46	1
DEKALB	DKS44-20	109		13		61		88	--		48	--	--	22	60	44	14	36	1
DEKALB	DKS53-67	144		40		92		117	--		144	--	--	24	58	47	2	47	1
MATURITY CHECK	EARLY	114		16		65		92	--		58	--	--	22	56	45	31	41	1
MATURITY CHECK	LATE	137		20		79		111	--		73	--	--	26	58	47	2	44	1
MATURITY CHECK	MEDIUM	115		16		65		93	--		58	--	--	20	59	42	29	45	1
MYCOGEN	697	110		--		--		89	--		--	--	--	21	57	44	6	43	1
MYCOGEN	737	113		--		--		92	--		--	--	--	19	59	41	21	51	1
PIONEER	84G62	139		31		85		112	--		111	--	--	27	58	43	8	34	2
PIONEER	84P80	144		64		104		116	--		231	--	--	25	58	44	4	46	1
PIONEER	85G03	122		38		80		99	--		138	--	--	25	59	47	31	37	2
PIONEER	85Y40	128		45		86		103	--		162	--	--	24	59	42	16	41	1
Average		124		28		76		100	--		100	--	--	23	58	44	17	43	1
CV (%)		6		15		--		6	--		15	--	--	7	1	3	50	9	11
LSD (0.05)		11		6		--		9	--		21	--	--	2	1	0	12	6	0

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

SOUTH CENTRAL KANSAS DRYLAND GRAIN SORGHUM TEST

South Central Kansas Experiment Field, Hutchinson; Gary Cramer, agronomist; Keith Thompson, technician

Ost loam; Wheat in 2012

91 - 26 - 0 lb/a N, P, K

Planted on 5/17/2013; Harvested on 10/25/2013

Target stand of 35,000 plants/acre; 2.3 in. spacing

Grain sorghum yields were very good in spite of deficient rainfall in June and September. Above-normal rainfall in July and August helped carry the grain sorghum through the grain fill period.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	4.2	3.7	36	32		
April	3.6	2.6	49	55	624	617
May	5.8	3.8	62	65	915	927
June	2.5	4.3	75	75	1132	1196
July	5.6	3.5	77	81	1236	1416
August	11.2	3.1	76	79	1227	1361
Sept.	1.3	3.3	72	70	1075	1053
Oct.	2.8	1.8	55	54	447	407
Totals:	37.0	26.1	54	53	6,656	6,977

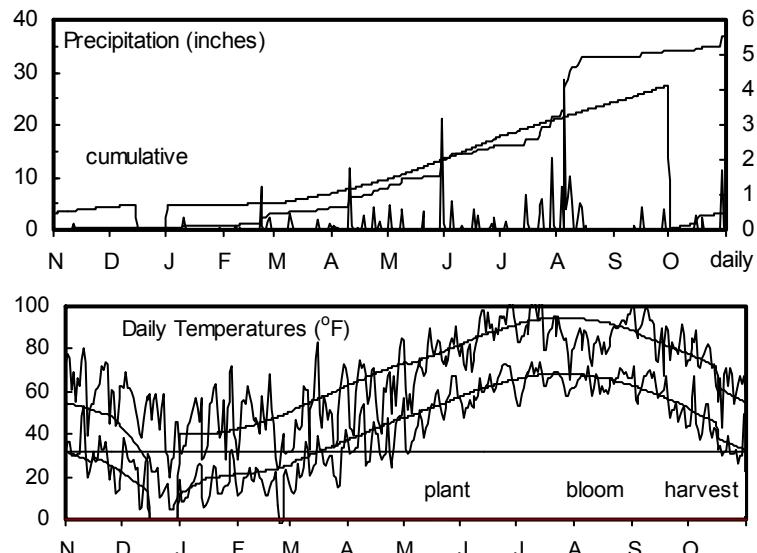


Table 10. Reno County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	YIELD AS % 2012-2013																
		ACRE YIELD, BUSHELS				OF TEST		Days	Grain	Days	Grain	Test	Pint	Pop	Hds			
		2013	2012	2011	Avg.	2-yr.	3-yr.	AVERAGE	to moist	to moist	%	lb/bu	ht	Ldg	1000 ppa	per plnt		
ADVANTA US	AG2101	100		--		--		103	--		--	--	15	55	48	--	35	1
ADVANTA US	AG2102	107		--		--		110	--		--	--	14	56	50	--	35	1
ADVANTA US	AG2103	97		--		--		100	--		--	--	15	57	44	--	28	1
ADVANTA US	AG2104	76		--		--		79	--		--	--	15	56	48	--	26	1
ADVANTA US	AG2115	94		--		--		98	--		--	--	15	56	52	--	39	1
ADVANTA US	XG1213	101		--		--		104	--		--	--	15	59	46	--	24	1
B-H GENETICS	BH 3822	97		--		--		100	--		--	--	16	58	53	--	37	1
B-H GENETICS	BH 5224	107		--		--		110	--		--	--	15	56	47	--	34	1
B-H GENETICS	BH 5350	76		--		--		79	--		--	--	14	54	43	--	34	1
B-H GENETICS	X13003	77		--		--		80	--		--	--	14	56	48	--	27	1
B-H GENETICS	X13014	102		--		--		105	--		--	--	16	59	44	--	31	1
DEKALB	DKS37-07	93		--		--		96	--		--	--	15	58	47	--	39	2
DEKALB	DKS38-88	100		--		--		103	--		--	--	16	58	42	--	38	1
DEKALB	DKS44-20	99		--		--		103	--		--	--	15	60	53	--	28	2
DEKALB	DKS53-67	119		--		--		123	--		--	--	16	59	48	--	36	1
MATURITY CHECK	EARLY	79		--		--		81	--		--	--	16	58	48	--	30	1
MATURITY CHECK	LATE	117		--		--		121	--		--	--	16	59	47	--	34	1
MATURITY CHECK	MEDIUM	89		--		--		92	--		--	--	16	60	50	--	27	1
MYCOGEN	697	100		--		--		104	--		--	--	15	58	44	--	30	1
MYCOGEN	737	105		--		--		109	--		--	--	14	57	47	--	28	1
Average		97		--		--		97	--		--	--	15	57	47	--	32	1
CV (%)		11		--		--		11	--		--	--	6	3	0	--	0	0
LSD (0.05)		15		--		--		15	--		--	--	1	3	0	--	0	0

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

Table 11. CENTRAL Kansas Sorghum Hybrid Yield Summary (% of test avg.), 2013

BRAND/NAME	SAD	RND	AVG.
ADVANTA US			
AG2101	--	103	--
AG2102	--	110	--
AG2103	--	100	--
AG2104	--	79	--
AG2115	--	98	--
XG1213	--	104	--
B-H GENETICS			
BH 3822	--	100	--
BH 5224	--	110	--
BH 5350	--	79	--
X13003	--	80	--
X13014	--	105	--
DEKALB			
DKS37-07	95	96	96
DKS38-88	92	103	98
DKS44-20	88	103	95
DKS53-67	117	123	120
MYCOGEN			
697	89	104	96
737	92	109	100
PIONEER			
84G62	112	--	--
84P80	116	--	--
85G03	99	--	--
85Y40	103	--	--
MATURITY CHECK			
EARLY	92	81	87
LATE	111	121	116
MEDIUM	93	92	93
AVERAGES (bu/a)	124	97	110
CV (%)	6	11	--
LSD (0.05)	9	15	--

WESTERN KANSAS FALLOW GRAIN SORGHUM TEST

Agricultural Research Center, Hays; Wayne Aschwege, technician

Harney silt loam; Sorghum in 2012

80 - 0 - 0 lb/a N, P, K

Planted on 5/22/2013; Harvested on 10/10/2013

Target stand of 35,000 plants/acre; 6.0 in. spacing

Cycles of dry and wet conditions throughout the summer.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	3.5	3.5	38	33		
April	1.1	1.8	48	50	620	478
May	2.2	3.1	65	61	948	833
June	2.7	3.8	76	71	1148	1109
July	7.1	3.4	78	78	1227	1344
August	0.6	2.8	77	76	1241	1286
Sept.	3.0	2.3	72	68	1070	984
Oct.	1.0	0.7	44	28	449	358
Totals:	21.1	21.3	54	50	6,703	6,488

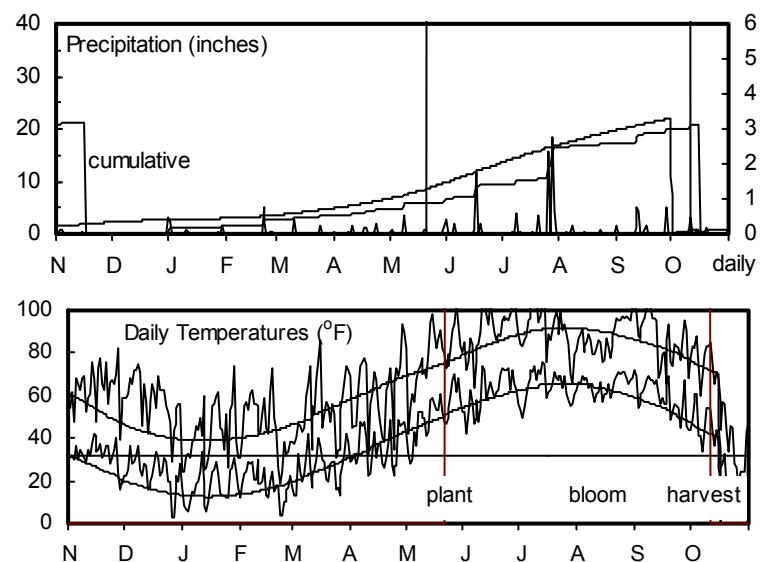


Table 12. Ellis County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	YIELD AS % 2012-2013													
		ACRE YIELD, BUSHELS				OF TEST			Days	Days	Test	Plnt	Pop	Hds	
		2013	2012	2011	Avg.	2013	2012	2011	to blm	Grain %	Test wt	Plnt ht	Ldg %	1000 ppa	per plnt
DEKALB	DKS26-60	33 -- -- --		48 -- --		-- -- --			62	14	55	26	0	35	1
DEKALB	DKS28-05	61 -- 40 51		90 -- 105		-- -- --			64	11	58	34	2	34	1
DEKALB	DKS37-07	73 -- 50 62		108 -- 131		-- -- --			73	13	59	44	6	35	1
MATURITY CHECK	MEDIUM	60 -- 42 51		89 -- 110		-- -- --			74	13	59	40	8	35	1
MYCOGEN	737	73 -- -- --		107 -- --		-- -- --			75	12	58	39	3	35	1
DEKALB	DKS44-20	59 -- 39 49		87 -- 103		-- -- --			76	12	60	40	6	34	1
MATURITY CHECK	EARLY	69 -- 29 49		102 -- 78		-- -- --			76	14	57	43	5	35	1
POLANSKY	GS524	60 -- -- --		88 -- --		-- -- --			76	12	56	38	6	34	1
DEKALB	DKS38-88	58 -- -- --		86 -- --		-- -- --			77	13	58	45	3	35	1
PIONEER	85G03	75 -- 40 58		112 -- 106		-- -- --			77	13	59	39	5	34	1
PIONEER	85Y40	88 -- 40 64		130 -- 106		-- -- --			80	14	60	40	2	35	1
MYCOGEN	697	81 -- -- --		120 -- --		-- -- --			80	14	57	41	3	35	1
GAYLAND WARD SEED	GW9417	63 -- -- --		93 -- --		-- -- --			81	13	58	45	18	35	1
GAYLAND WARD SEED	EXP 9058	74 -- -- --		109 -- --		-- -- --			81	15	57	44	6	34	1
GAYLAND WARD SEED	EXP 8017	51 -- -- --		75 -- --		-- -- --			82	15	59	47	15	35	1
POLANSKY	GS665W	76 -- -- --		112 -- --		-- -- --			84	14	58	39	2	33	1
GAYLAND WARD SEED	EXP 9059	56 -- -- --		83 -- --		-- -- --			84	14	58	44	9	35	1
PIONEER	84P80	84 -- 37 60		124 -- 97		-- -- --			85	16	59	41	0	35	1
MATURITY CHECK	LATE	86 -- 47 67		128 -- 125		-- -- --			85	17	60	42	2	35	1
PIONEER	84G62	73 -- 22 48		109 -- 59		-- -- --			86	17	58	42	2	35	1
Average		68 -- 38 53		100 -- 100		-- -- --			78	14	58	40	5	34	1
CV (%)		13 -- 12 --		13 -- 12 --		-- -- --			3	9	3	9	94	3	14
LSD (0.05)		12 -- 7 --		18 -- 17		-- -- --			3	2	2	13	8	1	0

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

WESTERN KANSAS FALLOW GRAIN SORGHUM TEST

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist

Keith silt loam; Sunflower in 2012

50 - 15 - 0 lb/a N, P, K

Planted on 5/24/2013; Harvested on 10/9/2013

Target stand of 25,000 plants/acre; 8.4 in. spacing

Dry during the summer, but conditions improved after the first of August.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	2.2	2.3	34	28		
April	0.4	1.4	45	49	603	421
May	1.7	2.9	62	59	905	762
June	2.3	3.4	74	70	1088	1054
July	2.5	3.1	75	76	1174	1285
August	0.9	2.1	75	74	1179	1216
Sept.	4.0	1.6	70	66	1007	910
Oct.	1.0	0.4	51	48	411	324
Totals:	15.0	17.2	52	49	6,367	5,972

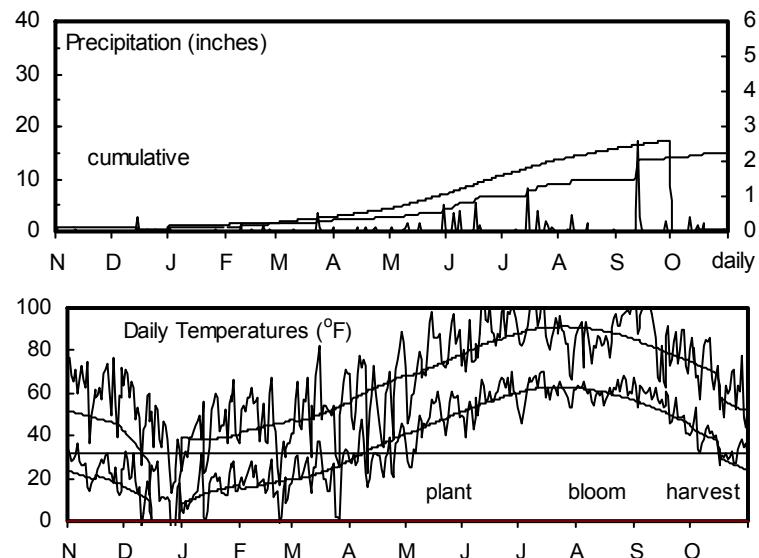


Table 13. Thomas County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	YIELD AS % 2012-2013																
		ACRE YIELD, BUSHELS				OF TEST			Days	Grain	Days	Grain	Test	Plnt	Pop	Hds		
		2013	2012	2011	Avg.	2-yr.	3-yr.	AVERAGE	blm	%	blm	%	wt	ht	Ldg	1000	per	
													lb/bu	in	%	ppa	plnt	
DEKALB	DKS26-60	45	--	--	--	116	--	--	--	--	60	12	54	32	--	27	1	
DEKALB	DKS28-05	50	--	44	47	--	128	--	84	--	--	68	11	50	35	--	26	1
PIONEER	87P06	53	--	--	--	--	137	--	--	--	68	12	52	36	--	28	1	
PIONEER	86G32	56	--	--	--	--	146	--	--	--	70	13	55	39	--	28	1	
PIONEER	86G08	47	--	--	--	--	122	--	--	--	70	13	54	38	--	29	1	
ADVANTA US	AG1201	43	--	--	--	--	110	--	--	--	70	12	51	34	--	24	1	
ADVANTA US	AG1401	37	--	--	--	--	95	--	--	--	73	13	53	37	--	25	1	
DEKALB	DKS38-88	46	--	--	--	--	118	--	--	--	73	13	50	39	--	26	1	
DEKALB	DKS37-07	40	--	54	47	--	103	--	101	--	74	12	51	36	--	26	1	
MATURITY CHECK	MEDIUM	33	--	57	45	--	84	--	107	--	74	13	51	38	--	27	1	
DEKALB	DKS44-20	44	--	56	50	--	114	--	105	--	74	13	54	40	--	26	1	
PIONEER	85Y40	38	--	47	42	--	97	--	89	--	75	14	54	37	--	27	1	
MATURITY CHECK	EARLY	42	--	41	41	--	108	--	78	--	75	14	52	37	--	27	1	
RICHARDSON	96173	35	--	--	--	--	89	--	--	--	75	14	53	38	--	23	1	
RICHARDSON	413	49	--	--	--	--	127	--	--	--	77	14	50	38	--	25	1	
ADVANTA US	XG1213	39	--	--	--	--	101	--	--	--	78	16	53	40	--	21	1	
MYCOGEN	737	40	--	--	--	--	104	--	--	--	78	13	52	39	--	25	1	
ADVANTA US	AG2104	32	--	--	--	--	82	--	--	--	78	13	53	37	--	27	1	
PIONEER	84P80	38	--	58	48	--	97	--	110	--	78	18	55	39	--	26	1	
PIONEER	84G62	27	--	56	41	--	70	--	105	--	79	17	53	37	--	26	1	
RICHARDSON	92123	34	--	--	--	--	87	--	--	--	79	14	54	39	--	21	1	
ADVANTA US	AG2101	37	--	--	--	--	96	--	--	--	80	17	53	38	--	28	1	
ADVANTA US	AG2115	30	--	--	--	--	77	--	--	--	80	14	54	40	--	27	1	
RICHARDSON	68653	30	--	--	--	--	78	--	--	--	80	16	50	39	--	23	1	
RICHARDSON	6173	32	--	--	--	--	82	--	--	--	81	17	54	39	--	28	1	
MYCOGEN	697	33	--	--	--	--	85	--	--	--	81	15	51	39	--	25	1	
RICHARDSON	50113	34	--	--	--	--	88	--	--	--	82	14	53	38	--	28	1	
PIONEER	85G03	34	--	69	51	--	87	--	129	--	83	17	55	37	--	28	1	
MATURITY CHECK	LATE	28	--	55	41	--	71	--	104	--	85	20	54	38	--	29	1	
Average		39	--	53	46	--	100	--	100	--	76	14	53	37	--	26	1	
CV (%)		12	--	14	--	--	12	--	14	--	4	6	3	6	--	9	--	
LSD (0.05)		7	--	11	--	--	17	--	20	--	5	1	2	3	--	3	0	

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

WESTERN KANSAS FALLOW GRAIN SORGHUM TEST

Southwest Research-Extension Center, Tribune; Alan Schlegel, agronomist; DeWayne Bond, technician

Ulysses silt loam; Fallow in 2012

80 - 35 - 0 lb/a N, P, K

Planted on 5/22/2013; Harvested on 10/24/2013

Target stand of 25,000 plants/acre; 8.4 in. spacing

Dry in the spring and early summer but conditions improved after the first of August.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	1.8	1.8	35	30		
April	0.2	1.3	51	49	716	430
May	1.9	2.3	59	59	850	772
June	1.8	2.5	74	70	1086	1063
July	2.0	2.6	80	76	1251	1287
August	6.4	2.3	78	74	1231	1209
Sept.	2.8	1.3	64	66	887	934
Oct.	1.1	0.6	54	49	415	340
Totals:	18.0	14.7	53	49	6,436	6,035

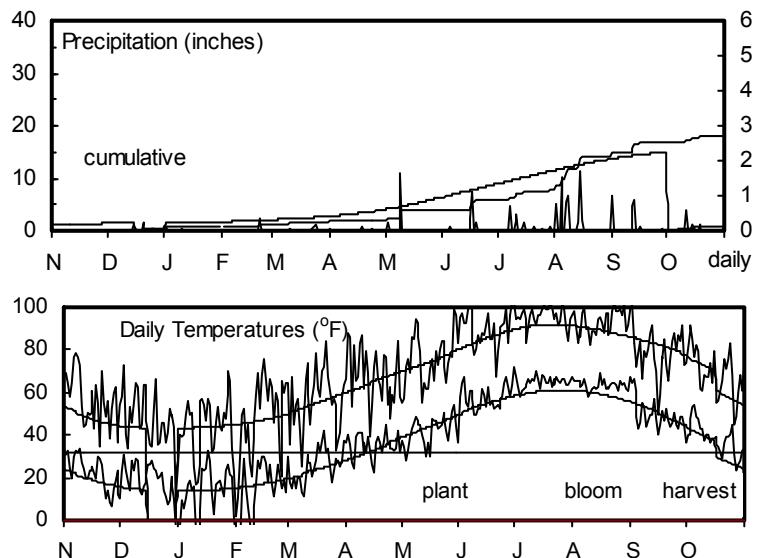


Table 14. Greeley County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	YIELD AS % 2012-2013													
		ACRE YIELD, BUSHELS				OF TEST		Days	Grain	Days	Grain	Test	Plnt	Pop	Hds
		2013	2012	2011	Avg.	2013	2012	2011	blm	%	blm	%	lb/bu	in % ppa	per plnt
B-H GENETICS	X13013	88 -- -- -- --		70 -- -- -- --		-- -- -- --		60	13	57	43	--	34	2	
B-H GENETICS	X13016	84 -- -- -- --		67 -- -- -- --		-- -- -- --		63	14	56	46	--	26	2	
DEKALB	DKS26-60	102 -- -- -- --		81 -- -- -- --		-- -- -- --		63	13	57	39	--	41	1	
CHANNEL	5C35	110 -- -- -- --		88 -- -- -- --		-- -- -- --		67	12	57	43	--	45	2	
DEKALB	DKS28-05	118 -- 148 133 --		94 -- 104 --		-- -- -- --		67	13	57	44	--	41	2	
PIONEER	87P06	118 -- 139 129 --		94 -- 98 --		-- -- -- --		68	13	57	43	--	39	2	
PIONEER	86G32	140 -- -- -- --		112 -- -- -- --		-- -- -- --		70	14	56	46	--	40	2	
PIONEER	86G08	133 -- 136 135 --		106 -- 95 --		-- -- -- --		70	14	56	44	--	38	2	
B-H GENETICS	X13001	122 -- -- -- --		97 -- -- -- --		-- -- -- --		75	13	56	48	--	32	2	
MATURITY CHECK	MEDIUM	132 -- 146 139 --		105 -- 103 --		-- -- -- --		76	14	55	48	--	45	1	
DEKALB	DKS38-88	145 -- -- -- --		116 -- -- -- --		-- -- -- --		76	15	54	51	--	41	2	
DEKALB	DKS37-07	136 -- 145 140 --		109 -- 102 --		-- -- -- --		77	15	54	48	--	44	1	
B-H GENETICS	BH 5224	142 -- -- -- --		114 -- -- -- --		-- -- -- --		77	14	56	48	--	44	1	
CHANNEL	6B13	116 -- -- -- --		92 -- -- -- --		-- -- -- --		77	15	53	52	--	35	2	
DEKALB	DKS44-20	125 -- 141 133 --		100 -- 99 --		-- -- -- --		78	15	55	49	--	38	1	
MATURITY CHECK	EARLY	137 -- 111 124 --		110 -- 78 --		-- -- -- --		78	15	54	50	--	46	1	
B-H GENETICS	BH 3808	126 -- -- -- --		101 -- -- -- --		-- -- -- --		82	15	54	45	--	40	1	
CHANNEL	6B50	118 -- -- -- --		94 -- -- -- --		-- -- -- --		83	15	54	46	--	43	1	
PIONEER	85Y40	145 -- 144 145 --		116 -- 101 --		-- -- -- --		83	15	54	46	--	41	1	
MYCOGEN	737	128 -- -- -- --		103 -- -- -- --		-- -- -- --		84	15	54	45	--	37	1	
PIONEER	85G03	137 -- 153 145 --		110 -- 108 --		-- -- -- --		86	15	53	48	--	41	2	
MYCOGEN	697	122 -- -- -- --		97 -- -- -- --		-- -- -- --		86	16	53	47	--	32	1	
CHANNEL	6B85	138 -- -- -- --		110 -- -- -- --		-- -- -- --		87	15	55	49	--	44	2	
MATURITY CHECK	LATE	140 -- 154 147 --		112 -- 108 --		-- -- -- --		89	15	53	52	--	40	2	
Average		125 -- 142 134 --		100 -- 100 --		-- -- -- --		76	14	55	47	--	40	2	
CV (%)		8 -- 9 -- --		8 -- 9 -- --		-- -- -- --		2	5	2	3	--	8	7	
LSD (0.05)		13 -- 18 -- --		11 -- 12 -- --		-- -- -- --		2	1	1	2	--	5	0	

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

WESTERN KANSAS FALLOW GRAIN SORGHUM TEST

Southwest Research-Extension Center, Garden City; Monty Spangler, technician

Keith silt loam; Wheat in 2012

100 - 0 - 0 lb/a N, P, K

Planted on 5/22/2013; Harvested on 11/1/2013

Target stand of 35,000 plants/acre; 6.0 in. spacing

Good emergence and timely rains. Test was able to recover from a hailstorm on July 31.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	3.0	2.8	37	34		
April	0.3	1.6	47	50	649	472
May	1.3	2.9	63	61	946	831
June	1.8	3.0	77	72	1136	1115
July	2.2	2.5	79	78	1245	1321
August	6.1	2.2	76	75	1205	1260
Sept.	1.8	1.6	72	68	1068	973
Oct.	0.9	0.5	54	28	443	356
Totals:	17.4	17.1	54	50	6,692	6,328

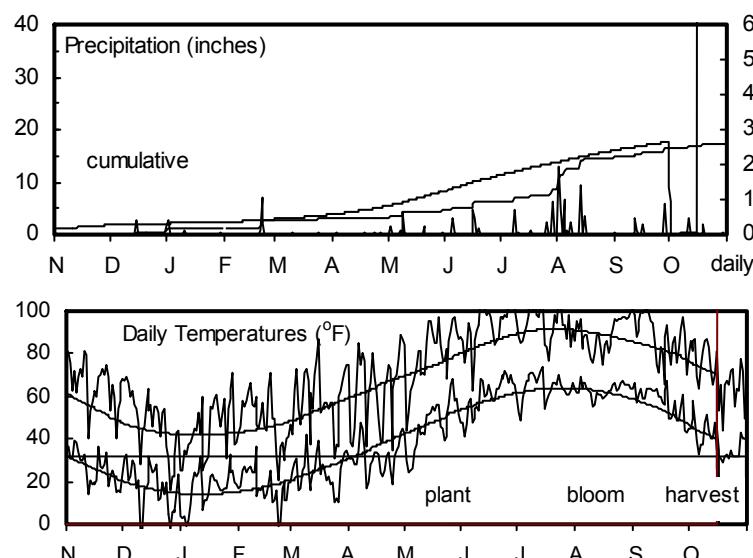


Table 15. Finney County Dryland Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	ACRE YIELD, BUSHELS						YIELD AS % 2012-2013					
		2-yr. AVERAGE			OF TEST			Days to moist	Days to moist	Grain wt	Test ht	Plnt Ldg	Pop 1000 ppa
		2013	2012	2011	2013	2012	2011	blm %	blm %	lb/bu	in %	Hds per plnt	
B-H GENETICS	X13013	34	--	--	46	--	--	--	--	47	15	55	42
DEKALB	DKS26-60	31	--	--	42	--	--	--	--	52	15	57	38
B-H GENETICS	X13016	31	--	--	42	--	--	--	--	55	16	56	46
PIONEER	87P06	68	38	--	93	121	--	73	13	57	15	58	47
PIONEER	86G32	69	48	--	94	151	--	70	18	57	17	57	49
DEKALB	DKS28-05	57	72	--	78	228	--	69	16	58	15	57	43
PIONEER	86G08	65	--	--	88	--	--	--	--	59	16	58	49
B-H GENETICS	X13001	56	--	--	77	--	--	--	--	63	15	58	50
DEKALB	DKS37-07	77	38	--	105	120	--	76	16	65	16	58	50
MATURITY CHECK	EARLY	72	30	--	98	93	--	76	18	66	16	57	50
RICHARDSON	92123	52	--	--	71	--	--	--	--	66	15	58	50
B-H GENETICS	BH 5224	75	--	--	101	--	--	--	--	66	16	58	50
DEKALB	DKS38-88	72	--	--	97	--	--	--	--	67	16	58	52
MATURITY CHECK	MEDIUM	69	28	--	94	88	--	77	15	67	16	58	50
RICHARDSON	413	67	--	--	90	--	--	--	--	67	16	57	48
DEKALB	DKS44-20	75	31	--	101	97	--	79	19	68	16	59	51
PIONEER	85G03	91	34	--	123	107	--	80	19	68	17	59	50
MYCOGEN	737	74	--	--	101	--	--	--	--	68	16	58	46
PIONEER	85Y40	80	30	--	109	96	--	79	16	68	17	59	49
GAYLAND WARD SEED	EXP 9011	52	--	--	71	--	--	--	--	69	17	59	53
GAYLAND WARD SEED	GW9480	49	--	--	66	--	--	--	--	69	17	59	54
GAYLAND WARD SEED	EXP 8017	66	--	--	89	--	--	--	--	70	18	59	52
GAYLAND WARD SEED	EXP 9058	85	--	--	116	--	--	--	--	70	16	59	51
MYCOGEN	697	78	--	--	105	--	--	--	--	70	17	58	49
B-H GENETICS	BH 3808	94	--	--	128	--	--	--	--	70	16	58	48
RICHARDSON	50113	40	--	--	54	--	--	--	--	73	17	59	49
GAYLAND WARD SEED	GW9417	77	--	--	105	--	--	--	--	73	17	59	52
GAYLAND WARD SEED	EXP 9010	74	--	--	100	--	--	--	--	73	16	57	51
MATURITY CHECK	LATE	117	25	--	159	78	--	85	16	76	19	60	51
GAYLAND WARD SEED	EXP 8016	100	--	--	136	--	--	--	--	76	17	57	53
GAYLAND WARD SEED	EXP 8019	92	--	--	126	--	--	--	--	76	17	57	50
GAYLAND WARD SEED	GW9320	100	--	--	136	--	--	--	--	77	17	59	53
RICHARDSON	68653	84	--	--	114	--	--	--	--	77	18	56	59
RICHARDSON	96173	83	--	--	113	--	--	--	--	78	18	58	53
GAYLAND WARD SEED	EXP 9031	108	--	--	147	--	--	--	--	78	18	57	51
RICHARDSON	6173	103	--	--	140	--	--	--	--	80	18	58	56
GAYLAND WARD SEED	EXP 8022	106	--	--	144	--	--	--	--	82	17	58	52
Average		74	32	--	100	100	--	76	17	68	16	58	50
CV (%)		11	14	--	11	14	--	--	--	4	5	2	4
LSD (0.05)		11	6	--	15	20	--	--	--	4	1	2	3

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

Table 16. WESTERN Kansas Grain Sorghum Hybrid Yield Summary (% of test avg.), 2013

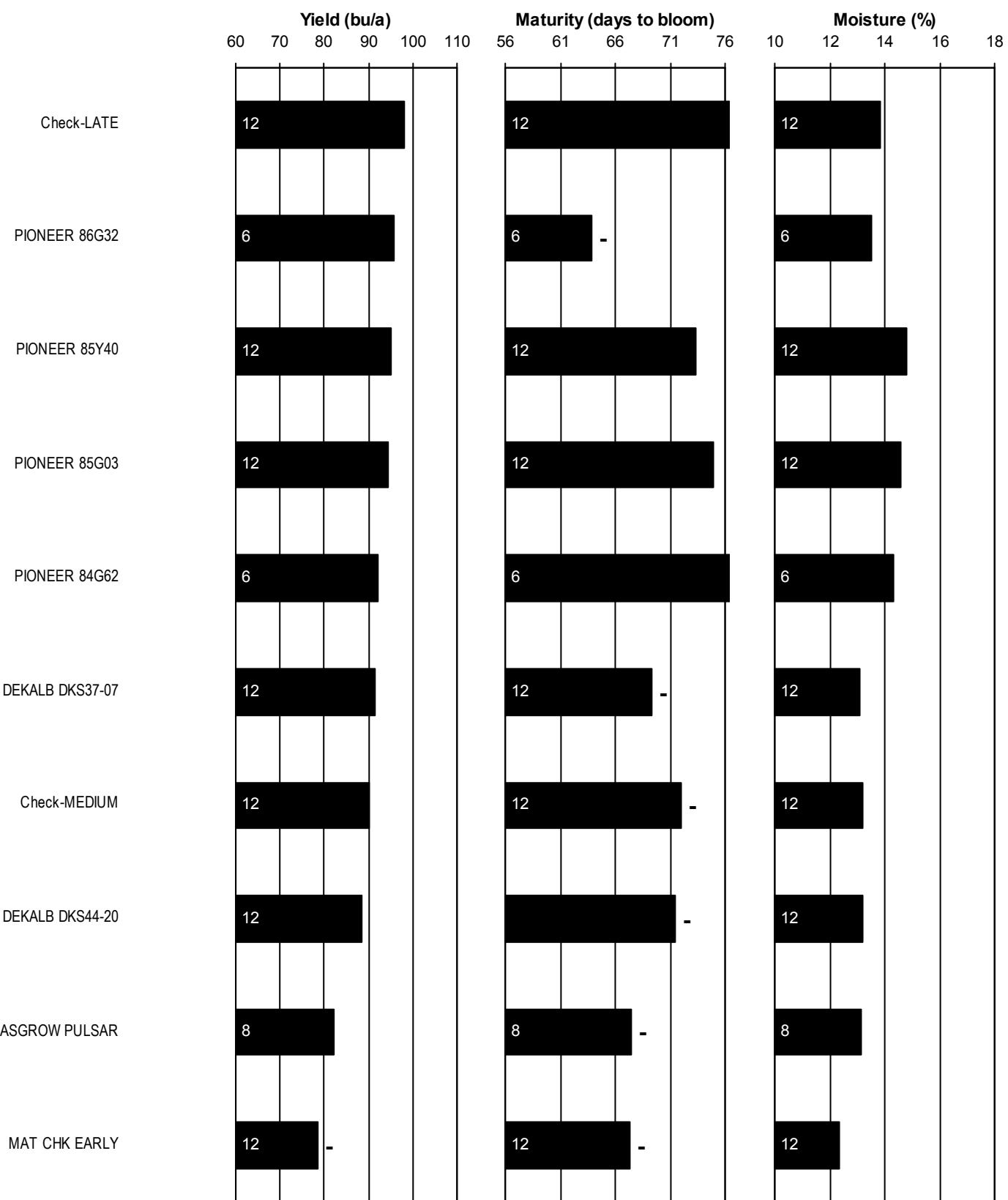
BRAND/NAME	ELD	THD	GRD	FND	AVG.	BRAND/NAME	ELD	THD	GRD	FND	AVG.						
ADVANTA US																	
AG1201	--	110	--	--	--	MYCOGEN	697	120	85	97	105	102					
AG1401	--	95	--	--	--	737	107	104	103	101	104						
AG2101	--	96	--	--	--	PIONEER											
AG2104	--	82	--	--	--	84G62	109	70	--	--	--	--					
AG2115	--	77	--	--	--	84P80	124	97	--	--	--	--					
XG1213	--	101	--	--	--	85G03	112	87	110	123	108						
B-H GENETICS																	
BH 3808	--	--	101	128	--	85Y40	130	97	116	109	113						
BH 5224	--	--	114	101	--	86G08	--	122	106	88	--						
X13001	--	--	97	77	--	86G32	--	146	112	94	--						
X13013	--	--	70	46	--	87P06	--	137	94	93	--						
X13016	--	--	67	42	--	POLANSKY											
CHANNEL																	
5C35	--	--	88	--	--	GS524	88	--	--	--	--						
6B13	--	--	92	--	--	GS665W	112	--	--	--	--						
6B50	--	--	94	--	--	RICHARDSON											
6B85	--	--	110	--	--	0413	--	127	--	90	--						
DEKALB																	
DKS26-60	48	116	81	42	72	06173	--	82	--	140	--						
DKS28-05	90	128	94	78	98	50113	--	88	--	54	--						
DKS37-07	108	103	109	105	106	68653	--	78	--	114	--						
DKS38-88	86	118	116	97	104	92123	--	87	--	71	--						
DKS44-20	87	114	100	101	101	96173	--	89	--	113	--						
GAYLAND WARD																	
EXP 8016	--	--	--	136	--	MATURITY CHECK											
EXP 8017	75	--	--	89	--	EARLY	102	108	110	98	105						
EXP 8019	--	--	--	126	--	LATE	128	71	112	159	117						
EXP 8022	--	--	--	144	--	MEDIUM	89	84	105	94	93						
EXP 9010	--	--	--	100	--	AVERAGES (bu/a)											
EXP 9011	--	--	--	71	--	68	39	125	74	76							
EXP 9031	--	--	--	147	--	CV (%)	13	12	8	11	--						
EXP 9058	109	--	--	116	--	LSD (0.05)	18	17	11	15	--						
EXP 9059	83	--	--	--	--												
GW9320	--	--	--	136	--												
GW9417	93	--	--	105	--												
GW9480	--	--	--	66	--												

ELD = Ellis Co., Hays

THD = Thomas Co., Colby

GRD = Greeley Co., Tribune

FND = Finney Co., Garden City



Values inside bars indicate the number of comparisons with checks. Symbols (+, -) indicate if statistically higher or lower than mean of checks.

Figure 6. WESTERN Kansas sorghum hybrid standardized performance summary, 2011-2013

SOUTH CENTRAL KANSAS IRRIGATED GRAIN SORGHUM TEST

South Central Kansas Experiment Field, Hutchinson; Gary Cramer, agronomist; Keith Thompson, technician

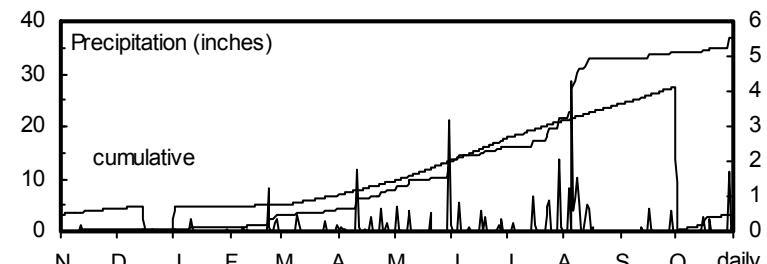
Ost loam; Soybean in 2012

91 - 26 - 0 lb/a N, P, K

Planted on 5/17/2013; Harvested on 11/7/2013

Target stand of 90,000 plants/acre; 2.3 in. spacing

Grain sorghum yields were very good despite deficient rainfall in June and September. Above-normal rainfall in July and August helped carry grain sorghum through the grain fill period.



Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	4.2	3.7	36	32	0	
April	3.6	2.6	49	55	624	617
May	5.8	3.8	62	65	915	927
June	2.5	4.3	75	75	1132	1196
July	5.6	3.5	77	81	1236	1416
August	11.2	3.1	76	79	1227	1361
Sept.	1.3	3.3	72	70	1075	1053
Oct.	2.8	1.8	55	54	447	407
Totals:	37.0	26.1	54	53	6,656	6,977

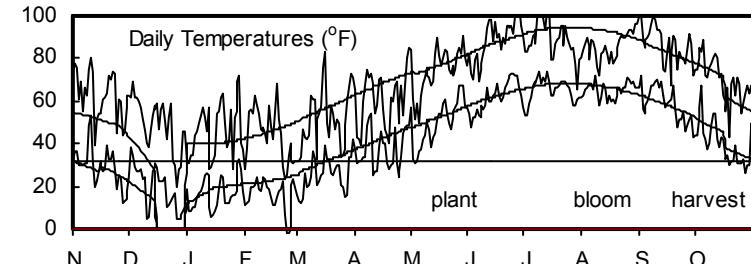


Table 17. Reno County Irrigated Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	ACRE YIELD, BUSHELS						YIELD AS %			2012-2013						
		2-yr. AVERAGE			OF TEST			Days to moist blm	Grain %	Days to moist blm	Grain %	Test wt lb/bu	Plant ht in	Ldg %	Pop 1000 ppa	Hds per plnt	
		2013	2012	2011	Avg.	2013	2012	2011									
ADVANTA US	AG2101	134	--	--	--	99	--	--	--	--	16	59	53	--	98	--	
ADVANTA US	AG2102	129	--	--	--	96	--	--	--	--	14	55	50	--	100	--	
ADVANTA US	AG2103	131	--	--	--	97	--	--	--	--	17	60	49	--	80	--	
ADVANTA US	AG2104	122	--	--	--	90	--	--	--	--	16	59	50	--	80	--	
ADVANTA US	AG2115	130	--	--	--	96	--	--	--	--	16	59	55	--	83	--	
ADVANTA US	XG1213	147	--	--	--	109	--	--	--	--	17	60	52	--	63	--	
B-H GENETICS	BH 5224	134	--	--	--	99	--	--	--	--	15	58	53	--	85	--	
B-H GENETICS	BH 5350	131	--	--	--	97	--	--	--	--	14	56	52	--	98	--	
B-H GENETICS	BH 5566	138	--	--	--	102	--	--	--	--	16	59	54	--	78	--	
B-H GENETICS	X13003	95	--	--	--	70	--	--	--	--	15	58	61	--	76	--	
B-H GENETICS	X13014	136	--	--	--	101	--	--	--	--	16	60	56	--	86	--	
B-H GENETICS	X13021	130	--	--	--	96	--	--	--	--	18	61	56	--	69	--	
DEKALB	DKS49-45	156	--	117	137	--	116	--	109	--	--	16	60	59	--	84	--
DEKALB	DKS51-01	150	--	--	--	111	--	--	--	--	17	61	66	--	81	--	
DEKALB	DKS53-67	143	--	115	129	--	106	--	107	--	--	17	61	54	--	69	--
DEKALB	DKS54-00	148	--	109	128	--	109	--	101	--	--	16	59	58	--	84	--
GAYLAND WARD SEED	GW9417	114	--	--	--	84	--	--	--	--	17	59	64	--	76	--	
GAYLAND WARD SEED	GW9320	133	--	--	--	98	--	--	--	--	17	61	55	--	77	--	
GAYLAND WARD SEED	GW9480	137	--	--	--	101	--	--	--	--	17	59	55	--	76	--	
GOLDEN ACRES	GA 3545	139	--	116	127	--	103	--	107	--	--	16	59	53	--	84	--
GOLDEN ACRES	GA 3696	141	--	108	124	--	104	--	100	--	--	16	59	53	--	119	--
MATURITY CHECK	EARLY	138	--	70	104	--	102	--	65	--	--	16	59	54	--	75	--
MATURITY CHECK	LATE	146	--	113	130	--	108	--	105	--	--	17	62	58	--	80	--
MATURITY CHECK	MEDIUM	126	--	99	112	--	93	--	92	--	--	16	60	50	--	76	--
MYCOGEN	697	132	--	--	--	98	--	--	--	--	15	58	53	--	92	--	
MYCOGEN	737	128	--	--	--	95	--	--	--	--	14	58	49	--	68	--	
PIONEER	84G62	152	--	125	138	--	112	--	116	--	--	17	60	55	--	78	--
PIONEER	84P80	151	--	132	142	--	112	--	122	--	--	17	61	54	--	84	--
PIONEER	85G03	142	--	102	122	--	105	--	95	--	--	19	60	50	--	65	--
PIONEER	85Y40	159	--	115	137	--	118	--	106	--	--	16	61	50	--	92	--
RICHARDSON	413	133	--	--	--	98	--	--	--	--	14	57	59	--	66	--	
RICHARDSON	6173	146	--	--	--	108	--	--	--	--	18	57	59	--	74	--	
RICHARDSON	50113	121	--	--	--	89	--	--	--	--	15	61	60	--	76	--	
RICHARDSON	68653	125	--	--	--	93	--	--	--	--	18	59	67	--	54	--	
RICHARDSON	92123	128	--	--	--	94	--	--	--	--	16	59	58	--	80	--	
RICHARDSON	96173	143	--	--	--	106	--	--	--	--	18	59	66	--	67	--	
TRIUMPH	TR 438	123	--	--	--	91	--	--	--	--	14	57	55	--	80	--	
TRIUMPH	TR 448	120	--	--	--	89	--	--	--	--	15	59	49	--	85	--	
TRIUMPH	TR 457	134	--	--	--	100	--	--	--	--	15	59	49	--	74	--	
TRIUMPH	TR 4941	143	--	109	126	--	106	--	101	--	--	16	59	53	--	68	--
TRIUMPH	TR 4951	133	--	100	117	--	99	--	92	--	--	16	59	59	--	84	--
TRIUMPH	TRX 24871	129	--	--	--	95	--	--	--	--	15	58	54	--	46	--	
TRIUMPH	TRX 85131	140	--	96	118	--	104	--	89	--	--	17	58	53	--	86	--
	Average	135	--	108	122	--	100	--	100	--	--	16	59	55	--	79	--
	CV (%)	6	--	9	--	--	6	--	9	--	--	5	2	0	--	4	--
	LSD (0.05)	11	--	14	--	--	8	--	14	--	--	1	1	0	--	4	--

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

WESTERN KANSAS IRRIGATED GRAIN SORGHUM TEST

Northwest Research-Extension Center, Colby; Patrick Evans, agronomist

Keith silt loam; Soybean in 2012

170 - 40 - 0 lb/a N, P, K

Planted on 5/23/2013; Harvested on 10/10/2013

Target stand of 90,000 plants/acre; 2.3 in. spacing

Dry during the summer, but conditions improved after the first of August.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	2.2	2.3	34	28		
April	0.4	1.4	45	49	603	421
May	1.7	2.9	62	59	905	762
June	2.3	3.4	74	70	1088	1054
July	2.5	3.1	75	76	1174	1285
August	0.9	2.1	75	74	1179	1216
Sept.	4.0	1.6	70	66	1007	910
Oct.	1.0	0.4	51	48	411	324
Totals:	15.0	17.2	52	49	6,367	5,972

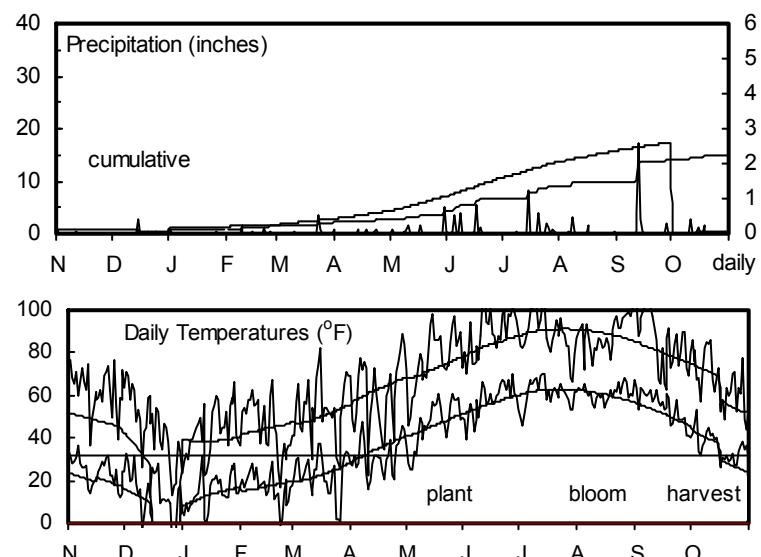


Table 18. Thomas County Irrigated Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	ACRE YIELD, BUSHELS						YIELD AS %			2012-2013			Pop ppa	Hds per plnt			
		2-yr. AVERAGE			OF TEST			Days to moist	Days to moist	Grain wt	Test	Pint						
		2013	2012	2011	Avg.	2013	2012	2011	blm	%	blm	%	lb/bu	Ldg	1000 in	%		
TRIUMPH	TR 424	131	--	--	--	78	--	--	--	--	59	12	57	57	--	81	1	
PIONEER	87P06	142	115	54	129	104	85	77	66	61	13	60	13	59	59	--	85	1
PIONEER	86G08	151	--	--	--	--	90	--	--	--	--	62	14	60	60	--	82	1
PIONEER	86G32	165	133	--	149	--	99	89	--	63	14	63	13	59	59	--	84	1
TRIUMPH	TR 438	141	--	--	--	--	84	--	--	--	--	65	12	59	59	--	82	1
MATURITY CHECK	MEDIUM	170	123	70	146	121	101	83	86	67	15	65	15	60	60	--	86	1
MATURITY CHECK	EARLY	174	142	75	158	130	104	95	92	67	14	66	15	59	59	--	82	1
GOLDEN ACRES	GA 5556	165	--	--	--	--	98	--	--	--	--	70	14	59	59	--	77	1
DEKALB	DKS51-01	172	145	--	159	--	103	97	--	70	15	70	15	60	60	--	77	1
RICHARDSON	92123	161	--	--	--	--	96	--	--	--	--	71	13	60	60	--	60	1
PIONEER	85Y40	175	166	87	170	143	104	111	105	70	15	71	15	59	59	--	79	1
GOLDEN ACRES	GA 3545	168	137	--	152	--	100	92	--	70	15	72	16	59	59	--	76	1
PIONEER	85G03	192	175	103	183	157	114	117	126	71	15	72	15	59	59	--	81	1
MYCOGEN	737	161	--	--	--	--	96	--	--	--	--	72	14	57	57	--	72	1
DEKALB	DKS49-45	170	139	73	154	127	101	93	89	72	15	73	15	58	58	--	77	1
GAYLAND WARD SEED	EXP 9058	166	--	--	--	--	99	--	--	--	--	73	16	59	59	--	79	1
TRIUMPH	TR 457	158	--	--	--	--	94	--	--	--	--	73	14	57	57	--	63	1
GAYLAND WARD SEED	EXP 8016	173	--	--	--	--	103	--	--	--	--	73	16	60	60	--	73	1
GOLDEN ACRES	GA 3696	189	172	--	181	--	113	115	--	72	15	73	15	59	59	--	73	1
MYCOGEN	697	149	--	--	--	--	89	--	--	--	--	73	16	57	57	--	70	1
RICHARDSON	413	162	--	--	--	--	97	--	--	--	--	73	14	57	57	--	74	1
TRIUMPH	TR 4941	183	--	--	--	--	109	--	--	--	--	73	15	58	58	--	71	1
GAYLAND WARD SEED	EXP 9010	170	--	--	--	--	102	--	--	--	--	73	14	59	59	--	76	1
TRIUMPH	TRX 85131	167	--	--	--	--	100	--	--	--	--	73	17	56	56	--	78	1
DEKALB	DKS53-67	183	165	95	174	148	109	110	115	74	15	74	17	59	59	--	85	1
DEKALB	DKS54-00	174	145	78	160	132	104	97	95	75	15	74	16	58	58	--	85	1
RICHARDSON	50113	129	--	--	--	--	77	--	--	--	--	74	15	60	60	--	66	1
MATURITY CHECK	LATE	183	134	70	159	129	109	90	86	73	16	74	17	60	60	--	86	1
TRIUMPH	TR 4951	167	--	--	--	--	100	--	--	--	--	74	15	58	58	--	62	1
PIONEER	84P80	185	165	94	175	148	110	110	114	75	16	74	16	59	59	--	83	1
RICHARDSON	68653	174	--	--	--	--	104	--	--	--	--	75	18	57	57	--	60	1
GAYLAND WARD SEED	EXP 9059	174	--	--	--	--	104	--	--	--	--	75	16	59	59	--	77	1
PIONEER	84G62	187	186	110	187	161	112	125	134	75	16	75	16	60	60	--	86	1
RICHARDSON	96173	176	--	--	--	--	105	--	--	--	--	76	17	58	58	--	60	1
RICHARDSON	6173	179	--	--	--	--	107	--	--	--	--	77	16	57	57	--	82	1
Average		168	150	82	159	133	100	100	100	70	15	71	15	59	54	--	76	1
CV (%)		7	8	8	--	--	7	8	8	--	--	2	6	1	7	--	7	7
LSD (0.05)		15	18	10	--	--	9	12	12	--	--	2	1	1	1	--	7	0

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

WESTERN KANSAS IRRIGATED GRAIN SORGHUM TEST

Southwest Research-Extension Center, Tribune; Alan Schlegel, agronomist; Dewayne Bond, assistant scientist

Ulysses silt loam; Wheat in 2012

120 - 35 - 0 lb/a N, P, K

Planted on 5/30/2013; Harvested on 10/25/2013

Target stand of 70,000 plants/acre; 3.0 in. spacing

Some plots had poor emergence. Dry until the first of August.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	0.2	1.8	35	30		
April	1.2	1.3	51	49	716	430
May	0.7	2.3	59	59	850	772
June	4.1	2.5	74	70	1086	1063
July	4.3	2.6	80	76	1251	1287
August	2.8	2.3	78	74	1231	1209
Sept.	0.8	1.3	64	66	887	934
Oct.	2.2	0.6	54	49	415	340
Totals:	16.2	14.7	53	49	6,436	6,035

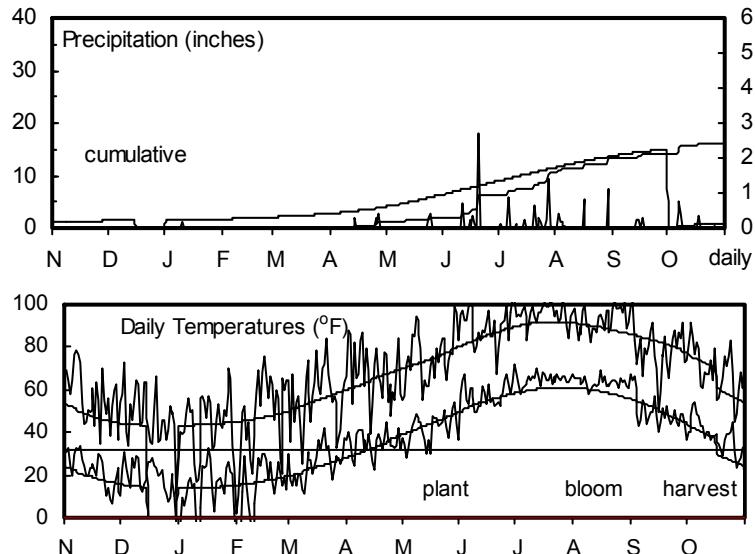


Table 19. Greeley County Irrigated Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	ACRE YIELD, BUSHELS						YIELD AS %			2012-2013							
		2013	2012	2011	2-yr. AVG.	3-yr. AVG.	OF TEST			Days to moist blm	Grain %	Days to moist blm	Grain %	Test wt lb/bu	Pint ht in	Ldg %	Pop 1000 ppa	Hds per plnt
							2013	2012	2011									
TRIUMPH	TR 424	102	--	--	--	--	76	--	--	--	--	65	14	57	44	--	56	--
CHANNEL	5B90	135	--	--	--	--	101	--	--	--	--	69	14	57	52	--	61	--
MATURITY CHECK	EARLY	127	138	125	132	130	94	82	67	71	13	70	14	56	56	--	58	--
CHANNEL	6B13	135	--	--	--	--	100	--	--	--	--	70	14	56	60	--	64	--
MATURITY CHECK	MEDIUM	141	154	179	147	158	105	92	97	73	13	71	14	56	54	--	66	--
CHANNEL	6B10	153	--	--	--	--	115	--	--	--	--	72	15	56	52	--	45	--
TRIUMPH	TR 448	107	--	--	--	--	79	--	--	--	--	74	15	55	48	--	37	--
CHANNEL	7B11	136	--	--	--	--	102	--	--	--	--	75	14	57	58	--	73	--
CHANNEL	7B30	147	182	--	164	--	110	108	--	75	13	75	14	56	56	--	59	--
RICHARDSON	92123	128	--	--	--	--	96	--	--	--	--	75	15	55	54	--	50	--
RICHARDSON	50113	119	--	--	--	--	88	--	--	--	--	76	15	56	52	--	59	--
RICHARDSON	413	122	--	--	--	--	91	--	--	--	--	77	15	55	54	--	49	--
DEKALB	DKS49-45	139	168	204	153	170	104	100	110	78	12	78	15	55	62	--	58	--
GOLDEN ACRES	GA 3545	135	158	--	147	--	101	94	--	76	12	78	15	55	58	--	55	--
MYCOGEN	737	140	--	--	--	--	104	--	--	--	--	79	15	55	52	--	51	--
PIONEER	85Y40	145	177	180	161	167	108	105	97	76	13	79	15	55	52	--	58	--
DEKALB	DKS51-01	139	168	--	154	--	104	100	--	77	13	80	15	54	60	--	50	--
PIONEER	85G03	144	153	201	149	166	108	91	108	79	14	81	15	54	55	--	53	--
TRIUMPH	TR 457	94	--	--	--	--	70	--	--	--	--	81	15	55	50	--	26	--
GOLDEN ACRES	GA 3696	144	175	--	160	--	108	104	--	78	13	81	15	55	57	--	56	--
PIONEER	84P80	163	191	199	177	184	121	114	108	82	13	81	15	56	57	--	68	--
TRIUMPH	TRX 85131	135	171	--	153	--	101	102	--	80	14	81	16	52	55	--	60	--
MATURITY CHECK	LATE	142	163	183	153	163	106	97	99	79	13	81	15	55	56	--	65	--
DEKALB	DKS54-00	143	181	187	162	170	107	108	101	81	13	82	15	55	59	--	59	--
RICHARDSON	6173	153	--	--	--	--	114	--	--	--	--	82	15	54	66	--	66	--
PIONEER	84G62	143	195	185	169	174	107	116	100	82	13	83	15	56	55	--	69	--
MYCOGEN	697	99	--	--	--	--	74	--	--	--	--	83	15	55	50	--	37	--
DEKALB	DKS53-67	111	183	199	147	164	83	109	107	82	13	84	15	54	56	--	66	--
RICHARDSON	96173	129	--	--	--	--	96	--	--	--	--	85	15	55	62	--	47	--
RICHARDSON	68653	120	--	--	--	--	89	--	--	--	--	87	15	54	68	--	25	--
Average		132	168	185	150	162	100	100	100	78	13	78	15	55	56	--	55	--
CV (%)		12	8	6	--	--	12	8	6	--	--	4	2	1	5	--	14	--
LSD (0.05)		27	19	16	--	--	20	11	9	--	--	5	0	1	4	--	13	--

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

WESTERN KANSAS IRRIGATED GRAIN SORGHUM TEST

Southwest Research-Extension Center, Garden City; Monty Spangler, technician

Keith silt loam; Wheat in 2012

100 - 0 - 0 lb/a N, P, K

Planted on 6/4/2013; Harvested on 11/1/2013

Target stand of 70,000 plants/acre; 3.0 in. spacing

Good emergence and timely rains. Test was able to recover from a hailstorm on July 31.

Month	Precipitation		Average Temp.		GDU	
	2013	Norm.	2013	Norm.	2013	Norm.
Nov.-Mar.	3.0	2.4	37	29		
April	0.3	1.6	47	50	649	472
May	1.3	2.9	63	61	946	831
June	1.8	3.0	77	72	1136	1115
July	2.2	2.5	79	78	1245	1321
August	6.1	2.2	76	75	1205	1260
Sept.	1.8	1.6	72	68	1068	973
Oct.	0.9	0.9	54	50	443	356
Totals:	17.4	17.1	54	50	6,692	6,328

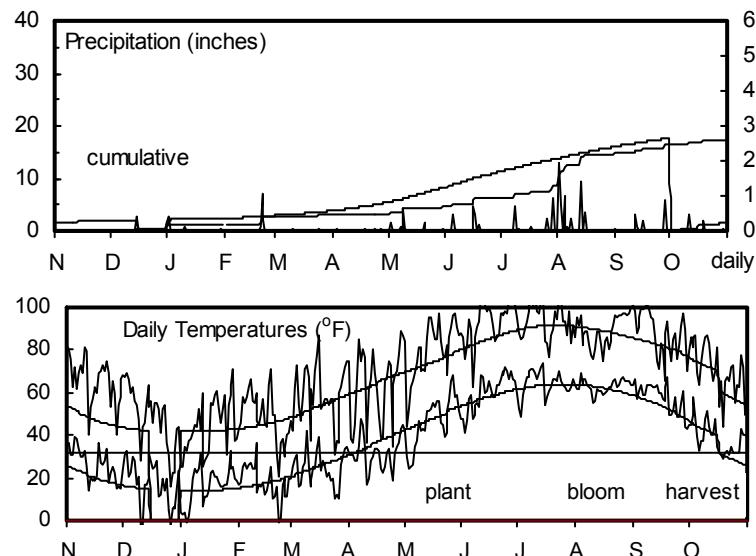


Table 20. Finney County Irrigated Grain Sorghum Performance Test, 2011-2013

BRAND	NAME	ACRE YIELD, BUSHELS						YIELD AS %			2012-2013							
		2-yr. AVERAGE			OF TEST			Days to blm	Grain %	Days to blm	Grain %	Test wt lb/bu	Pint ht in	Ldg %	Pop 1000 ppa	Hds per plnt		
		2013	2012	2011	Avg.	2013	2012	2011										
B-H GENETICS	X13003	93	--	--	--	87	--	--	--	--	60	14	59	55	--	50	1	
GOLDEN ACRES	GA 5613	103	--	--	--	97	--	--	--	--	60	15	60	51	--	52	1	
PIONEER	85Y40	121	152	103	136	125	113	102	95	65	16	60	16	60	--	56	1	
ADVANTA US	AG2102	108	--	--	--	101	--	--	--	--	61	14	58	48	--	56	1	
B-H GENETICS	BH 5224	85	--	--	--	80	--	--	--	--	61	15	60	53	--	54	1	
MATURITY CHECK	EARLY	101	128	79	115	103	95	86	73	62	16	61	16	58	53	--	53	1
MYCOGEN	737	106	--	--	--	99	--	--	--	--	61	15	59	49	--	52	1	
PIONEER	85G03	112	155	121	133	129	105	105	112	66	16	61	17	58	51	--	50	1
RICHARDSON	92123	101	--	--	--	95	--	--	--	--	62	15	59	53	--	43	1	
TRIUMPH	TR 438	92	--	--	--	86	--	--	--	--	62	14	59	52	--	53	1	
TRIUMPH	TR 448	85	--	--	--	80	--	--	--	--	62	15	61	48	--	43	1	
B-H GENETICS	X13014	96	--	--	--	90	--	--	--	--	62	15	59	53	--	49	1	
MATURITY CHECK	MEDIUM	100	149	97	125	115	94	101	89	64	16	62	15	58	52	--	50	1
ADVANTA US	AG3201	128	--	--	--	120	--	--	--	--	63	16	59	51	--	53	1	
TRIUMPH	TR 4941	123	134	112	129	123	116	90	104	67	16	63	16	59	52	--	50	1
B-H GENETICS	BH 3822	112	--	--	--	105	--	--	--	--	63	16	59	51	--	53	1	
DEKALB	DKS51-01	105	146	--	125	--	98	99	--	64	16	63	15	60	56	--	47	1
ADVANTA US	AG2101	97	--	--	--	91	--	--	--	--	64	15	59	50	--	53	1	
ADVANTA US	AG2103	110	--	--	--	103	--	--	--	--	64	15	60	51	--	55	1	
B-H GENETICS	BH 5350	98	--	--	--	92	--	--	--	--	64	14	58	48	--	59	1	
RICHARDSON	413	96	--	--	--	90	--	--	--	--	64	15	57	55	--	49	1	
GOLDEN ACRES	GA 3545	103	150	116	126	123	96	101	107	67	16	65	15	59	53	--	57	1
B-H GENETICS	BH 5566	110	--	--	--	103	--	--	--	--	65	15	59	53	--	52	1	
TRIUMPH	TR 457	99	--	--	--	93	--	--	--	--	66	15	59	49	--	42	1	
PIONEER	84P80	125	166	129	146	140	117	112	119	69	16	66	16	60	53	--	54	1
TRIUMPH	TRX 85131	111	149	109	130	123	104	101	100	68	16	66	16	57	52	--	53	1
ADVANTA US	AG2115	107	--	--	--	100	--	--	--	--	67	15	58	50	--	51	1	
PIONEER	84G62	122	181	127	152	143	114	123	117	69	16	67	15	60	53	--	55	1
ADVANTA US	XG1213	97	--	--	--	91	--	--	--	--	67	16	59	52	--	45	1	
ADVANTA US	AG3101	123	--	--	--	115	--	--	--	--	67	16	61	59	--	54	1	
ADVANTA US	AG2104	100	--	--	--	94	--	--	--	--	68	15	58	48	--	52	1	
MYCOGEN	697	100	--	--	--	94	--	--	--	--	68	16	59	52	--	51	1	
DEKALB	DKS49-45	116	159	104	138	126	109	108	96	70	16	68	15	59	57	--	54	1
RICHARDSON	50113	80	--	--	--	75	--	--	--	--	68	16	59	52	--	47	1	
GOLDEN ACRES	GA 5515	107	--	--	--	100	--	--	--	--	69	15	58	51	--	51	1	
TRIUMPH	TR 4951	95	127	105	111	109	89	86	97	71	16	70	15	58	56	--	40	1
RICHARDSON	6173	116	--	--	--	109	--	--	--	--	70	19	57	64	--	49	1	
RICHARDSON	96173	119	--	--	--	111	--	--	--	--	71	17	58	60	--	44	1	
DEKALB	DKS53-67	119	158	112	139	130	111	107	103	73	16	72	16	60	55	--	54	1
MATURITY CHECK	LATE	134	162	120	148	139	125	109	111	71	16	72	17	60	56	--	54	1
RICHARDSON	68653	118	--	--	--	110	--	--	--	--	74	18	56	63	--	43	1	
DEKALB	DKS54-00	108	162	115	135	128	102	109	106	73	16	76	17	56	59	--	54	1
Average		107	148	108	127	121	100	100	100	68	16	65	16	59	53	--	51	1
CV (%)		7	6	12	--	--	7	6	12	--	--	3	6	1	3	--	7	7
LSD (0.05)		11	13	19	--	--	10	9	18	--	--	3	1	1	2	--	5	0

*Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Top LSD group in bold.

Table 21. Kansas IRRIGATED Grain Sorghum Hybrid Yield Summary (% of test avg.), 2013

BRAND/NAME	RNI	THI	GRI	FNI	AVG.	RNI	THI	GRI	FNI	AVG.
ADVANTA US						GAYLAND WARD				
AG2101	99	--	--	91	--	EXP 8016	--	103	--	--
AG2102	96	--	--	101	--	EXP 9010	--	102	--	--
AG2103	97	--	--	103	--	EXP 9058	--	99	--	--
AG2104	90	--	--	94	--	EXP 9059	--	104	--	--
AG2115	96	--	--	100	--	GW9320	98	--	--	--
AG3101	--	--	--	115	--	GW9417	84	--	--	--
AG3201	--	--	--	120	--	GW9480	101	--	--	--
XG1213	109	--	--	91	--					
B-H GENETICS						GOLDEN ACRES				
BH 3822	--	--	--	105	--	GA 3545	103	100	101	96
BH 5224	99	--	--	80	--	GA 3696	104	113	108	--
BH 5350	97	--	--	92	--	GA 5515	--	--	--	100
BH 5566	102	--	--	103	--	GA 5556	--	98	--	--
X13003	70	--	--	87	--	GA 5613	--	--	--	97
X13014	101	--	--	90	--					
X13021	96	--	--	--	--					
CHANNEL						MYCOGEN				
5B90	--	--	101	--	--	697	98	89	74	94
6B10	--	--	115	--	--	737	95	96	104	99
6B13	--	--	100	--	--					
7B11	--	--	102	--	--					
7B30	--	--	110	--	--					
DEKALB						PIONEER				
DKS49-45	116	101	104	109	107	84G62	112	112	107	114
DKS51-01	111	103	104	98	104	84P80	112	110	121	117
DKS53-67	106	109	83	111	102	85G03	105	114	108	105
DKS54-00	109	104	107	102	106	85Y40	118	104	108	113
						86G08	--	90	--	--
						86G32	--	99	--	--
						87P06	--	85	--	--
RICHARDSON										
						0413	98	97	91	90
						06173	108	107	114	109
						50113	89	77	88	75
						68653	93	104	89	110
						92123	94	96	96	95
						96173	106	105	96	111
										105

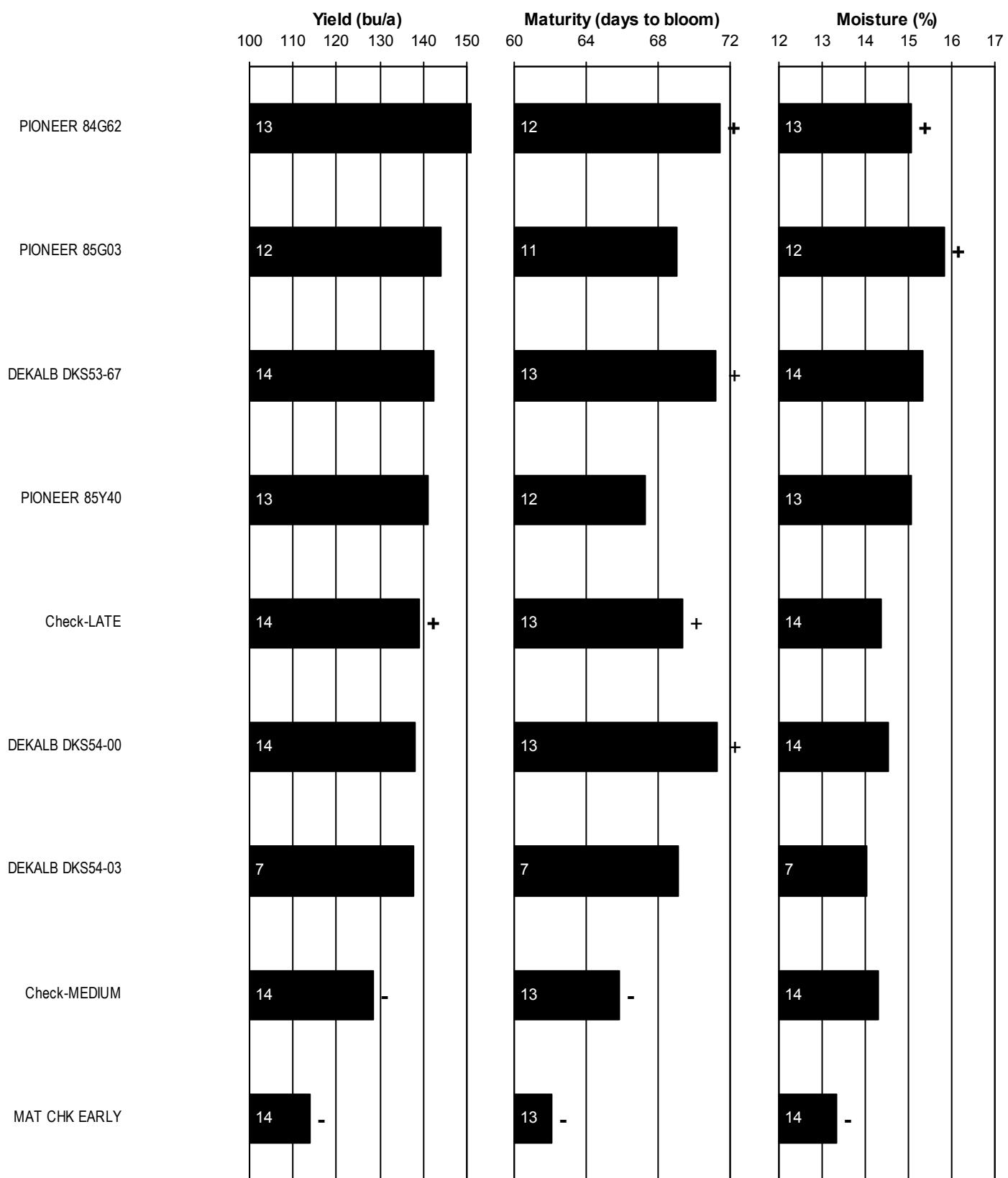
RNI=Reno Co., Hutchinson

THI=Thomas Co., Colby

GRI=Greeley Co., Tribune FNI=Finney Co., Garden City

Table 21 continued. Kansas IRRIGATED Grain Sorghum Hybrid Yield Summary (% of test avg.), 2013

BRAND/NAME	RNI	THI	GRI	FNI	AVG
TRIUMPH					
TR 424	--	78	76	--	--
TR 438	91	84	--	86	--
TR 448	89	--	79	80	--
TR 457	100	94	70	93	89
TR 4941	106	109	--	116	--
TR 4951	99	100	--	89	--
TRX 24871	95	--	--	--	--
TRX 85131	104	100	101	104	102
MATURITY CHECK					
EARLY	102	104	94	95	99
LATE	108	109	106	125	112
MEDIUM	93	101	105	94	98
AVERAGES (bu/a)	135	168	134	107	136
CV (%)	6	7	12	7	--
LSD (0.05)	8	9	20	10	--



Values inside bars indicate the number of comparisons with checks. Symbols (+, -) indicate if statistically higher or lower than mean of checks.

Figure 7. Kansas IRRIGATED sorghum hybrid standardized performance summary, 2011-2013

Table 22. Entries in the 2013 Kansas Grain Sorghum Performance Tests

BRAND	GC	EC	PC	Mat.	Days	GB	BRAND	GC	EC	PC	Mat.	Days	GB
ADVANTA US							GAYLAND WARD SEED						
AG1201	B	-	P	E	-	-	EXP 8016	-	-	-	-	-	-
AG1401	W	-	T	ME	-	-	EXP 8017	-	-	-	-	-	-
AG2102	R	-	P	M	-	-	EXP 8018	-	-	-	-	-	-
AG2104	R	-	P	ME	-	-	EXP 8019	-	-	-	-	-	-
AG2115	R	-	P	M	-	-	EXP 8022	-	-	-	-	-	-
AG3201	B	-	P	ML	-	-	EXP 9010	-	-	-	-	-	-
XG1213	B	-	P	ME	-	-	EXP 9011	-	-	-	-	-	-
AG2103	R	-	P	M	65	-	EXP 9031	-	-	-	-	-	-
AG2101	R	-	P	M	67	-	EXP 9058	-	-	-	-	-	-
AG3101	R	-	P	L	68	-	EXP 9059	-	-	-	-	-	-
B-H GENETICS							GW9320						
BH 3808	R	-	-	ME	-	C	GW9480	-	-	-	-	-	-
BH 3822	B	-	-	M	-	C,E	GW9417	R	HY	P	M	69	C+E
BH 5224	B	-	-	M	-	C,D,E	GOLDEN ACRES						
BH 5350	R	-	-	M	-	-	GA 5556	R	HY	P	E	62	C,E
BH 5566	B	-	-	ML	-	-	H-390W	W	W	P	E	62	C,E
X13001	R	-	-	ME	-	C,E	GA 5515	R	Y	P	M	64	C,E
X13003	R	-	-	M	-	C,E	GA 5613	B	Y	P	M	66	C,E
X13013	R	-	-	E	-	-	GA 5745	R	HY	P	M	68	C,E
X13014	R	-	-	M	-	C,E	GA 3545	B	HY	P	M	70	C,E
X13016	-	-	-	E	-	-	GA 3696	B	HY	P	L	74	C,E
X13021	-	-	-	L	-	-	MYCOGEN						
CHANNEL							697	B	W	P	M	64	CEIK
7B30	B	-	-	-	-	-	737	B	W	P	M	69	-
5C35	C	-	-	E	58	-	PIONEER						
5B90	B	HY	P	E	61	E	87P06	R	W	P	E	63	-
6B13	B	-	-	ME	61	-	86G08	R	W	P	-	65	-
6B13	B	-	-	ME	61	-	86G32	R	W	P	E	65	-
6B10	B	HY	P	ME	62	-	85G03	R	W	P	M	69	-
6B50	B	-	-	ME	62	-	85Y40	W	Y	P	M	70	-
6B85	B	-	-	M	66	-	84P80	R	W	P	L	71	-
7B11	B	HY	P	M	68	-	84G62	B	Y	P	L	72	E
DEKALB							POLANSKY						
DKS26-60	B	HY	P	E	56	-	GS524	B	-	P	ME	60	C
DKS28-05	B	HY	P	E	58	-	GS538W	C	-	P	M	60	C
DKS38-88	B	HY	P	E	64	I	GS665W	C	-	P	M	65	C
DKS37-07	B	HY	P	E	67	CEI	GS761	R	HY	P	M	65	C,E
DKS44-20	B	HY	P	M	67	-	GS718	R	HY	P	ML	70	C,E
DKS49-45	B	HY	P	M	70	E,I	GS728	R	-	P	ML	70	C,E
DKS51-01	B	HY	P	M	70	E,I	RICHARDSON						
DKS53-67	B	HY	P	L	71	CEI	0413	-	-	-	-	-	-
DKS54-00	B	HY	P	L	75	CEI	06173	-	-	-	-	-	-
							50113	-	-	-	-	-	-
							68653	-	-	-	-	-	-
							92123	-	-	-	-	-	-
							96173	-	-	-	-	-	-

Information provided by entrants:

GC = grain color: bronze, cream, red, yellow, white

EC = endosperm color: white, yellow, hetero-yellow

PC = plant color: purple, tan

Mat. = relative maturity: early, medium, late

Days = days to half bloom

GB = resistance to specific greenbug biotypes: C, E, I, K, etc.

Table 22 continued. Entries in the 2013 Kansas Grain Sorghum Performance Tests

BRAND	GC	EC	PC	Mat.	Days	GB
TRIUMPH						
TR 424	-	-	-	-	-	-
TRX 24871	-	-	-	-	-	-
TR 457	B	HY	P	M	43	-
TR 448	C	W	T	M	44	-
TRX 85131	R	W	P	L	47	E
TR 4941	B	HY	P	L	48	-
TR 4951	B	HY	P	L	49	-
TR 438	B	W	P	E	60	CE
MATURITY CHECK						
EARLY	R	W	P	E	65	E
MEDIUM	W	W	P	M	69	-
LATE	B	W	P	L	73	-

Information provided by entrants:

GC = grain color: bronze, cream, red, yellow, white

EC = endosperm color: white, yellow, hetero-yellow

PC = plant color: purple, tan

Mat. = relative maturity: early, medium, late

Days = days to half bloom

GB = resistance to specific greenbug biotypes: C, E, I, K, etc.

To access crop performance testing information electronically, visit our website. The information contained in this publication, plus more, is available for viewing or downloading at:

www.agronomy.ksu.edu/kscpt

Excerpts from the
University Research Policy Agreement with Cooperating Seed Companies

Permission is hereby given to Kansas State University (KSU) to test varieties and/or hybrids designated on the attached entry forms in the manner indicated in the test announcements. I certify that seed submitted for testing is a true sample of the seed being offered for sale.

I understand that all results from Kansas Crop Performance Tests belong to the University and the public and shall be controlled by the University so as to produce the greatest benefit to the public. Performance data may be used in the following ways: 1) Tables may be reproduced in their entirety provided the source is referenced and data are not manipulated or reinterpreted; 2) Advertising statements by an individual company about the performance of its entries may be made as long as they are accurate statements about the data as published, with no reference to other companies' names or cultivars. In both cases, the following must be included with the reprint or ad citing the appropriate publication number and title: "See the official Kansas State University Agricultural Experiment Station and Cooperative Extension Service Report of Progress 1095, '2013 Kansas Performance Tests with Grain Sorghum Hybrids,' or the Kansas Crop Performance Test website, www.agronomy.ksu.edu/kscpt, for details. Endorsement or recommendation by Kansas State University is not implied."

Contributors

Main Station, Manhattan

Jane Lingenfelser, Assistant Agronomist (Senior Author)
Doug Jardine, Extension Plant Pathologist
Jeff Whitworth, Extension Entomologist
Mary Knapp, KSU Weather Data Librarian
Edward O. Quigley, Agricultural Technician

Experiment Fields

Eric Ade, Topeka
Gary Cramer Hutchinson
James Kimball, Ottawa
Wendell Lilyhorn, Hutchinson
Randall Nelson, Scandia
Keith Thompson, Hutchinson

Research Centers

Wayne Aschwege, Hays
Patrick Evans, Colby
Kelly Kusel, Parsons
Alan Schlegel, Tribune
Monty Spangler, Garden City

Cooperators

Scott Chapman, Beloit
Clayton Short, Assaria

Copyright 2013 Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, give credit to the author(s), 2013 Kansas Performance Tests with Corn Hybrids, Kansas State University, December 2013. Contribution no. 14-040-S from the Kansas Agricultural Experiment Station.

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Publications from Kansas State University are available at:
www.ksre.ksu.edu

Kansas State University Agricultural Experiment Station and Cooperative Extension Service