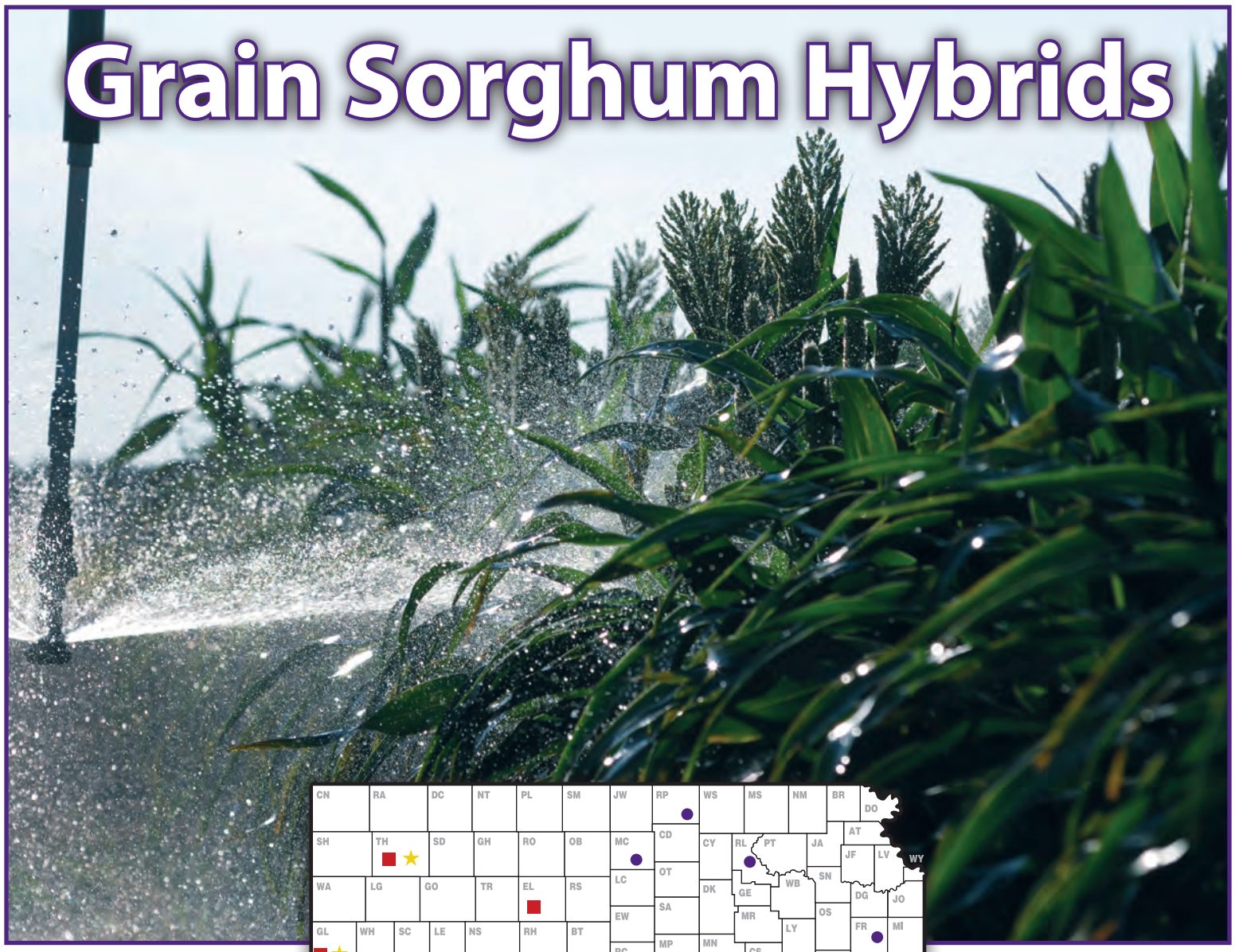
2016 Kansas Performance Tests with

Grain Sorghum Hybrids



Report of Progress 1131

K-STATE
Research and Extension

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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Contribution no. 17-177-S from the Kansas Agricultural Experiment Station.

2016 GRAIN SORGHUM CROP REVIEW

Statewide Growing Conditions

The 2016 grain sorghum season presented an overall favorable weather pattern, with more than 50% of the crop condition rated as good and excellent from early emergence until harvest. Wet conditions in the spring delayed planting in specific locations but overall the planting progress was near or ahead average as relative to the last 5-yr average (2011-2015). Early-season warm temperatures sped up the emergence process, at some point, compensating for the delay caused by the early wet conditions.

Sorghum heading was concentrated during early August and early October (at the latest). Vegetative phase and pollination conditions remained wet with near-average temperatures, favoring the pollination time and early-reproductive period. Hail was also a problem across the state. There were 526 reports of large hail through October 15. Of those events 223 were reported in May (mostly outside of the sorghum season). Hail has a larger impact when occurred around flowering time or during the grain filling, when the plant depends on the leaves, potentially affecting grain number and seed weight.

As related to the precipitation, all divisions averaged above-normal for the period of April 1 through October 15 (Table 1.) The greatest departure was in the south central, where the divisional average was 32.2 inches or 138% of normal. Unfortunately, the rains weren't evenly distributed across the region or across the season.

High temperatures weren't as much of a factor. The warmest readings were recorded in mid-July, with the highest read of 110°F reported on July 24 at Webster Dam. Freeze events were evident in some areas, particularly concentrated in the north western and north central areas. Low temperatures, depending on the timing of crop development, impacted final seed weight and potentially grain quality.

As related to the grain filling, this period started with good or above-average moisture content and went to dry conditions later when the crop was approaching harvest time. Temperatures also went from near-normal to above-normal average temperatures, hastening maturity and harvest time.

The sugarcane aphid (*Melanaphis sacchari*) advanced far north (north central Kansas), appearing in new areas and impacting sorghum primarily from the mid-vegetative to late reproductive stages. Sooty mold fungal disease was encountered in coincidence to plants affected by aphids, reducing yield and quality.

Harvest progress for sorghum across the state progressed at a good pace, primarily concentrated during October and being slightly ahead of the 5-yr average (2011-2015).

Despite the abovementioned challenges, in September the U.S. Department of Agriculture forecasted a sorghum yield of 84 bushels per acre for the state for the 2016 season, equaling the 88 bushels per acre from the 2015 season (Ignacio A. Ciampitti, Kansas State University Cropping Systems Specialist, and Mary Knapp, Kansas State University Climatologist).

Diseases

Disease levels in grain sorghum varied with the location in the state. The highest levels of disease were reported from south central Kansas, where frequent rainfall events throughout the summer caused significant levels of the foliar disease, sooty stripe. Sooty stripe is a splash-dispersed disease and levels on susceptible hybrids were the highest seen since the late 1990's from the Wichita area and southward. This disease is capable of producing yield losses of up to 35% on susceptible hybrids. The other significant problem in sorghum in 2016 was the development of sooty mold in fields where high sugarcane aphid populations were present. Sooty mold, while not a true pathogen, forms on the upper surface of leaves that have large amounts of aphid honeydew on them. The black mold does not penetrate the leaf, but effectively blocks sunlight from reaching the leaf and thereby reduces yields due to reduced photosynthesis.

Sorghum rust, an occasional problem in Kansas, was present at higher than normal levels in 2016, again due to frequent rains. Most fields were mature enough for it not to be an issue, but some later-planted fields may have suffered some yield loss.

Fusarium stalk rot was also present, but appeared to be at normal levels compared to 2015, when levels were above-normal in some parts of the state.

Lastly, for the first time in several years, sorghum ergot was reported in the state in both Jewell and Republic Counties. In both instances, late-planted forage sorghum was the host. While the disease causes some yield reduction on its own, the biggest threat is harvest delays associated with having to clean off the sticky sap produced by the fungus from harvesting and other crop handling equipment. This disease does not overwinter in Kansas, and hopefully its presence will continue to be just isolated incidences. (Doug Jardine, Kansas State University Department of Plant Pathology)

Insects

Sorghum had numerous pest problems in 2016. Many fields started out with significant infestations of chinch bugs. Even seedlings germinating from insecticide-treated seed had problems, in some cases due to the large number of chinch bug nymphs. Some replanting occurred just in time for aphids to start migrating to plants. Early season these were

mixed populations of yellow sugarcane aphids, corn leaf aphids, and greenbugs. These all caused concern but no impact on yield. Then fall armyworms/corn earworm infestations started in whorl stage sorghum. Again, this caused much concern but very little actual damage. However, these large infestations of whorl stage sorghum resulted in wide scale infestations of fields during heading. Many fields were thus treated for "headworms." Insecticides provided good control of headworms but also reduced most of the beneficial insects, thus allowing sugarcane aphids migrating into the state to successfully become established and flourish. 2016 then saw many fields throughout southern and north central Kansas just explode with sugarcane aphids. 2015 was the first year sugarcane aphids caused significant problems in Kansas and infestation problems increased and expanded over a larger area in 2016. (Holly Shwarting and Jeff Whitworth, Kansas State University Department of Entomology)

2016 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 2016 and the 30-year normal in addition to daily rainfall amounts since 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.

Explanatory information precedes data summaries for each test. Tables 3 through 19 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.

As with individual test results, small differences should not be overemphasized. Relative ranking and large differences are better indicators of performance.

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.

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. Temperatures by Crop Reporting District

Division	Extreme Tmax (°F)	Date	Avg Tmax (°F)	Avg Tmin (°F)	Avg Tmean (°F)	Extreme Tmin (°F)	Date
Northwest	106	23-Jul	81.1	52.6	66.8	22	2-Apr
North Central	110	24-Jul	81.6	56.5	69.1	22	3-Apr
Northeast	106	23-Jun	80.7	58.3	69.5	22	2-Apr
West Central	107	24-Jul	82.0	53.4	67.7	21	2-Apr
Central	109	22-Jul	82.6	57.7	70.1	19	2-Apr
East Central	106	25-Jul	81.0	59.8	70.4	23	12-Apr
Southwest	107	24-Jul	83.8	55.4	69.7	18	2-Apr
South Central	106	22-Jul	83.5	59.3	71.4	23	2-Apr
Southeast	104	23-Jul	82.4	60.9	71.7	23	2-Apr

Table 2. Entrants in the 2016 Kansas Grain Sorghum Performance Tests

Alta Seeds
Amarillo, TX
806-340-2031
altaseeds.com

B-H Genetics
Ganado, TX
361-771-2755
bhgenetics.com

Blue River Hybrids
Ames, IA
800-370-7979
blueriverorgseed.com

Browning Seed Inc.
Plainview, TX
806-293-5271
browningseed.com

Chromatin Inc.
Lubbock, TX
806-300-0593
chromatininc.com

DeKalb
Monsanto Seed
St. Louis, MO
800-335-2676
dekalb.com

Dyna-Gro Seed
Goddard, KS
316-772-8925
cpsagu.com

Gayland Ward Seed
Hereford, TX
806-258-7394
gaylandwardseed.com

Golden Acres Genetics
Waco, TX
254-761-9383
gaseed.com

Heartland Genetics LLC
Beloit, KS
785-738-5134

NuTech Seed, LLC
Ames, IA
515-232-1997
yieldleader.com

Phillips Seed Farms
Hope, KS
785-949-2204
phillipsseed.com

Polansky Seed, Inc.
Belleville, KS
785-527-2271
polanskyseed.com

Sorghum Partners
Lubbock, TX
806-300-0593
chromatininc.com

Western Kansas Agricultural Research Center
Hays, KS
785-625-3425
www.wkarc.org

NORTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

Manhattan, Riley County
Agronomy North Farm
Planted: 6/3/2016
Harvested: 10/25/2016
180-0-0 lb/a N, P, K
Reading silt loam
Previous crop: wheat

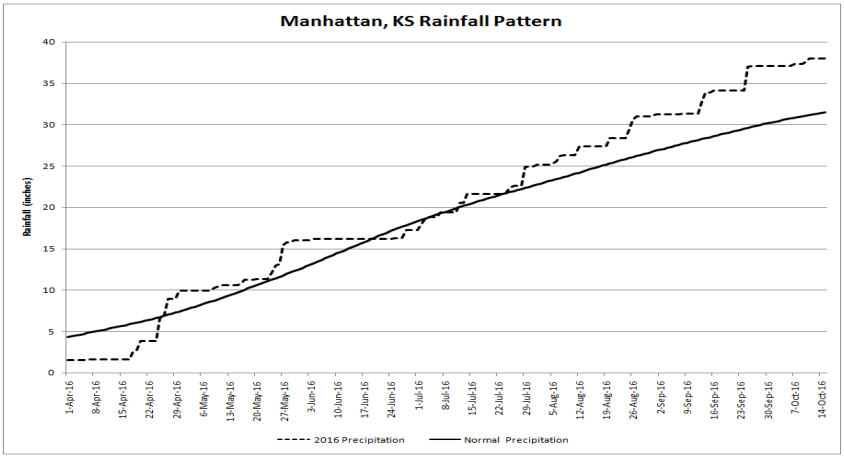

Table 3. Riley County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1203	105	**97**	**112**	101	105	96	111	106	--	12	61	57	--	36
ALTA	AG2103	100	**95**	109	98	101	92	108	103	--	12	61	55	--	42
ALTA	AG2105	116	90	112	103	106	107	102	106	--	13	61	59	--	44
ALTA	AG3101	110	89	--	100	--	102	101	--	--	13	61	61	--	51
ALTA	AG3201	111	**97**	--	104	--	102	110	--	--	12	60	55	--	52
ALTA	XG2117	97	--	--	--	--	89	--	--	--	12	60	63	--	50
ALTA	XG2118	105	--	--	--	--	96	--	--	--	14	60	62	--	53
BLUE RIVER HYBRIDS	63C5	81	--	--	--	--	74	--	--	--	10	58	48	--	44
BLUE RIVER HYBRIDS	63WT6	86	--	--	--	--	79	--	--	--	10	57	48	--	45
BLUE RIVER HYBRIDS	64YT5	70	--	--	--	--	64	--	--	--	11	56	46	--	37
DEKALB	DKS38-16	**126**	--	--	--	--	116	--	--	--	12	61	60	--	46
DEKALB	DKS45-23	103	--	--	--	--	95	--	--	--	12	62	59	--	37
DEKALB	DKS51-01	**139**	92	108	115	113	128	104	102	--	12	61	65	--	44
DEKALB	DKS53-53	**125**	**100**	107	113	111	115	114	101	--	12	62	62	--	44
DEKALB	EARLY	107	--	--	--	--	99	--	--	--	11	55	52	--	50
DEKALB	LATE	**125**	--	--	--	--	115	--	--	--	12	61	62	--	42
DEKALB	MED	115	--	--	--	--	105	--	--	--	12	61	61	--	55
DYNA-GRO	772B	**126**	--	--	--	--	116	--	--	--	12	60	57	--	45
DYNA-GRO	GX15371	110	--	--	--	--	101	--	--	--	12	62	59	--	40
DYNA-GRO	GX15373	112	--	--	--	--	103	--	--	--	11	60	60	--	45
DYNA-GRO	GX15484	123	--	--	--	--	113	--	--	--	13	61	61	--	46
DYNA-GRO	GX16173	103	--	--	--	--	95	--	--	--	11	61	55	--	46
DYNA-GRO	GX16667	115	--	--	--	--	105	--	--	--	12	61	65	--	49
DYNA-GRO	GX16675	132	--	--	--	--	121	--	--	--	13	59	76	--	44
DYNA-GRO	GX16957	61	--	--	--	--	56	--	--	--	12	55	45	--	38
DYNA-GRO	GX16968	103	--	--	--	--	94	--	--	--	13	60	58	--	47
DYNA-GRO	GX16970	104	--	--	--	--	96	--	--	--	11	60	50	--	45
DYNA-GRO	GX16988	106	--	--	--	--	98	--	--	--	11	60	53	--	53
DYNA-GRO	M60GB31	**128**	--	--	--	--	117	--	--	--	11	61	54	--	56
HEARTLAND GENETICS	HG45-C	99	**93**	--	96	--	91	106	--	--	11	58	62	--	41
HEARTLAND GENETICS	HG48-B	104	81	101	92	95	95	93	96	--	12	61	51	--	43
HEARTLAND GENETICS	HG52-B	108	**93**	**123**	101	108	100	106	117	--	11	59	63	--	46
MATURITY CHECK	EARLY	120	83	--	101	--	110	95	--	--	12	62	58	--	48
MATURITY CHECK	LATE	**131**	**101**	--	116	--	120	115	--	--	13	61	57	--	40
MATURITY CHECK	MED	**125**	87	--	106	--	115	99	--	--	12	61	63	--	47
POLANSKY	5669	89	--	--	--	--	82	--	--	--	12	61	50	--	44
POLANSKY	5761	102	**104**	**112**	103	106	94	119	107	--	12	59	61	--	44
SORGHUM PARTNERS	SP 73B12	107	--	--	--	--	99	--	--	--	12	59	58	--	50
SORGHUM PARTNERS	SP 78M30	113	--	--	--	--	104	--	--	--	11	59	61	--	59
	Average	109	88	105	98	101	100	100	100	--	12	60	58	--	46
	CV (%)	10	**9**	10	--	--	10	--	--	--	7	2	--	--	--
	LSD (0.05)	15	12	14	--	--	14	--	--	--	1	2	--	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

NORTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

Belleville, Republic County
North Central Experiment Field
Planted: 6/8/2016
Harvested: 10/27/2016
150-0-0 lb/a N, P, K
Crete silt loam
Previous crop: wheat

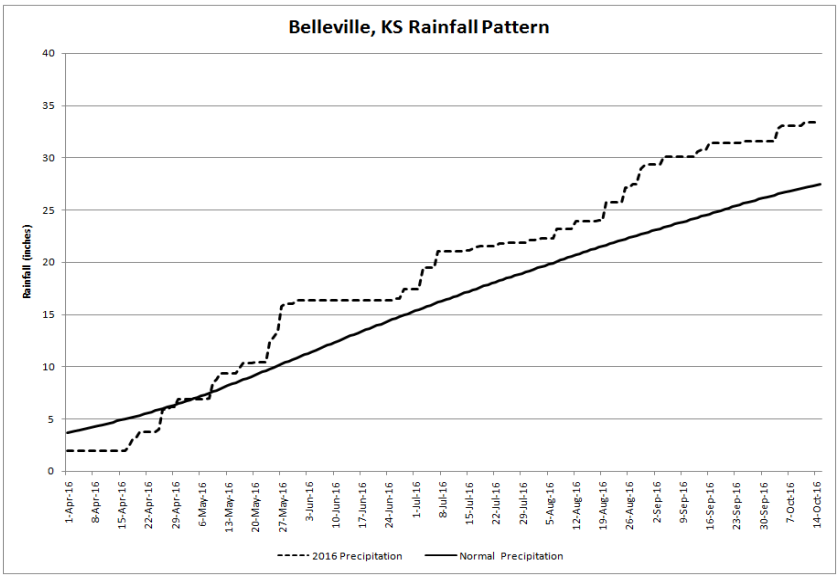

Table 4. Republic County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1203	76	121	130	99	109	100	99	117	--	17	61	--	--	--
ALTA	AG2103	79	106	113	93	99	104	87	102	--	15	61	--	--	--
ALTA	AG2105	87	117	91	102	98	114	96	82	--	16	61	--	--	--
ALTA	AG3101	92	**145**	--	118	--	120	118	--	--	17	63	--	--	--
ALTA	AG3201	90	**134**	--	112	--	118	110	--	--	18	62	--	--	--
ALTA	XG2117	85	--	--	--	--	111	--	--	--	17	63	--	--	--
ALTA	XG2118	71	--	--	--	--	93	--	--	--	22	61	--	--	--
DEKALB	DKS38-16	79	--	--	--	--	103	--	--	--	16	62	--	--	--
DEKALB	DKS45-23	**109**	--	--	--	--	142	--	--	--	17	62	--	--	--
DEKALB	DKS51-01	87	**129**	**150**	108	122	114	105	135	--	18	62	--	--	--
DEKALB	DKS53-53	**105**	**132**	133	119	123	138	108	120	--	17	62	--	--	--
DEKALB	EARLY	61	--	--	--	--	80	--	--	--	15	60	--	--	--
DEKALB	LATE	84	--	--	--	--	111	--	--	--	19	63	--	--	--
DEKALB	MED	82	--	--	--	--	108	--	--	--	17	61	--	--	--
DYNA-GRO	772B	77	--	--	--	--	101	--	--	--	17	61	--	--	--
DYNA-GRO	GX16675	55	--	--	--	--	73	--	--	--	29	62	--	--	--
DYNA-GRO	GX16957	40	--	--	--	--	52	--	--	--	18	61	--	--	--
DYNA-GRO	GX16988	67	--	--	--	--	87	--	--	--	15	60	--	--	--
DYNA-GRO	M60GB31	73	--	--	--	--	96	--	--	--	16	61	--	--	--
HEARTLAND GENETICS	HG23-R	62	--	--	--	--	81	--	--	--	15	61	--	--	--
HEARTLAND GENETICS	HG48-B	81	125	121	103	109	106	102	109	--	16	62	--	--	--
HEARTLAND GENETICS	HG52-B	68	**136**	118	102	107	90	111	106	--	18	62	--	--	--
MATURITY CHECK	EARLY	**103**	122	--	113	--	135	99	--	--	16	61	--	--	--
MATURITY CHECK	LATE	81	**137**	--	109	--	106	112	--	--	15	61	--	--	--
MATURITY CHECK	MED	83	**130**	--	106	--	108	106	--	--	14	62	--	--	--
PHILLIPS	595	35	--	--	--	--	46	--	--	--	16	58	--	--	--
PHILLIPS	672	82	--	--	--	--	107	--	--	--	17	61	--	--	--
POLANSKY	5669	32	--	--	--	--	42	--	--	--	17	62	--	--	--
POLANSKY	5718	**108**	**134**	--	121	--	142	110	--	--	17	62	--	--	--
SORGHUM PARTNERS	SP 73B12	71	--	--	--	--	93	--	--	--	20	62	--	--	--
SORGHUM PARTNERS	SP 78M30	62	--	--	--	--	81	--	--	--	20	60	--	--	--
	Average	76	123	111	100	103	100	100	100	--	17	61	--	--	--
	CV (%)	10	8	8	--	--	10	9	8	--	12	2	--	--	--
	LSD (0.05)	12	16	15	--	--	16	15	13	--	4	2	--	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

NORTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

Beloit, Mitchell County
Tom Deneke Farm
Planted: 6/11/2016
Harvested: 11/15/2016
100-0-0 lb/a N, P, K
Harney silt loam
Previous crop: wheat

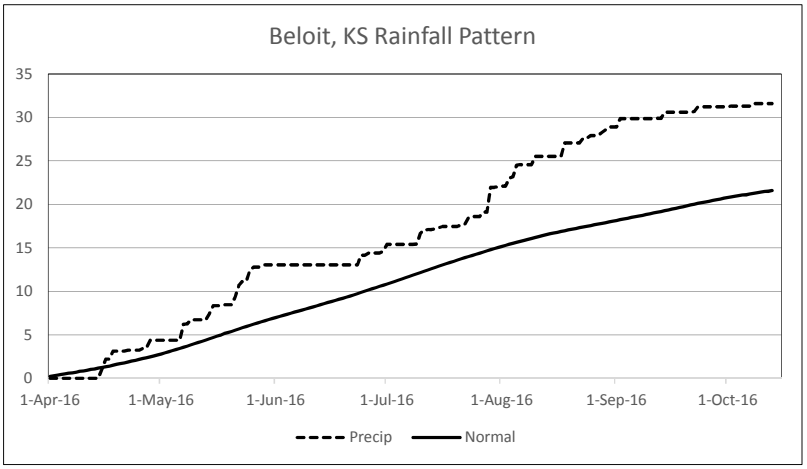

Table 5. Mitchell County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1203	145	96	--	120	--	108	108	--	--	14	63	54	--	--
ALTA	AG2103	103	93	--	98	--	77	104	--	--	14	62	53	--	--
ALTA	AG2105	130	83	--	107	--	97	93	--	--	14	62	58	--	--
ALTA	AG3101	135	86	--	111	--	101	97	--	--	14	63	56	--	--
ALTA	AG3201	116	**106**	--	111	--	86	119	--	--	14	60	62	--	--
ALTA	XG2117	141	--	--	--	--	105	--	--	--	14	62	61	--	--
ALTA	XG2118	146	--	--	--	--	109	--	--	--	15	62	57	--	--
DEKALB	DKS38-16	153	--	--	--	--	114	--	--	--	14	63	58	--	--
DEKALB	DKS45-23	**159**	--	--	--	--	119	--	--	--	14	63	59	--	--
DEKALB	DKS51-01	150	99	--	124	--	111	111	--	--	14	63	62	--	--
DEKALB	DKS53-53	**164**	75	--	120	--	122	84	--	--	14	62	60	--	--
DEKALB	EARLY	83	--	--	--	--	62	--	--	--	13	60	54	--	--
DEKALB	LATE	**171**	--	--	--	--	127	--	--	--	14	63	58	--	--
DEKALB	MED	**164**	--	--	--	--	122	--	--	--	14	63	60	--	--
DYNA-GRO	772B	**167**	--	--	--	--	124	--	--	--	14	62	56	--	--
DYNA-GRO	GX16675	**155**	--	--	--	--	115	--	--	--	14	62	70	--	--
DYNA-GRO	M60GB31	140	--	--	--	--	104	--	--	--	14	63	60	--	--
HEARTLAND GENETICS	HG45-C	104	87	--	95	--	77	98	--	--	12	60	54	--	--
HEARTLAND GENETICS	HG48-B	118	75	--	97	--	88	85	--	--	13	62	54	--	--
HEARTLAND GENETICS	HG52-B	143	90	--	117	--	107	101	--	--	14	61	61	--	--
MATURITY CHECK	EARLY	144	71	--	107	--	107	80	--	--	14	62	52	--	--
MATURITY CHECK	LATE	152	83	--	118	--	113	93	--	--	14	62	54	--	--
MATURITY CHECK	MED	151	**101**	--	126	--	113	114	--	--	14	63	59	--	--
PHILLIPS	595	88	--	--	--	--	66	--	--	--	12	60	64	--	--
PHILLIPS	672	137	--	--	--	--	102	--	--	--	14	62	66	--	--
POLANSKY	5526	133	--	--	--	--	99	--	--	--	13	61	54	--	--
POLANSKY	5651Y	127	--	--	--	--	94	--	--	--	13	61	57	--	--
SORGHUM PARTNERS	SP 73B12	139	--	--	--	--	104	--	--	--	15	62	58	--	--
SORGHUM PARTNERS	SP 78M30	140	--	--	--	--	105	--	--	--	14	61	55	--	--
	Average	134	89	--	112	--	100	100	--	--	14	62	58	--	--
	CV (%)	7	7	--	--	--	7	7	--	--	3	1	--	--	--
	LSD (0.05)	16	9	--	--	--	12	10	--	--	1	1	--	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 6. NORTHEAST Kansas Grain Sorghum Hybrid Yield Summary (% of test avg.), 2016

BRAND/NAME	RLD	RPD	MTD	AVG.
ALTA				
AG1203	96	100	108	101
AG2103	92	104	77	91
AG2105	107	114	97	106
AG3101	102	120	101	108
AG3201	102	118	86	102
XG2117	89	111	105	102
XG2118	96	93	109	99
BLUE RIVER HYBRIDS				
63C5	74	--	--	--
63WT6	79	--	--	--
64YT5	64	--	--	--
DEKALB				
DKS38-16	116	103	114	111
DKS45-23	95	142	119	119
DKS51-01	128	114	111	118
DKS53-53	115	138	122	125
EARLY	99	80	62	80
LATE	115	111	127	118
MED	105	108	122	112
DYNA-GRO				
772B	116	101	124	114
GX15371	101	--	--	--
GX15373	103	--	--	--
GX15484	113	--	--	--
GX16173	95	--	--	--
GX16667	105	--	--	--
GX16675	121	73	115	103
GX16957	56	52	--	54
GX16968	94	--	--	--
GX16970	96	--	--	--
GX16988	98	87	--	93
M60GB31	117	96	104	106
HEARTLAND GENETICS				
HG 23-R	--	--	21	--
HG 44-R	--	81	--	--
HG45-C	91	--	77	84
HG48-B	95	106	88	97
HG52-B	100	90	107	99
PHILLIPS				
595	--	46	66	56
672	--	107	102	105
POLANSKY				
5526	--	--	99	--
5651Y	--	--	94	--
5669	82	42	--	63
5718	--	142	--	--
5761	94	--	--	--
SORGHUM PARTNERS				
SP 73B12	99	93	104	98
SP 78M30	104	81	105	97
MATURITY CHECK				
EARLY	110	135	107	117
LATE	120	106	113	113
MED	115	108	113	112
AVERAGES (bu/a)	109	76	134	106
CV (%)	10	10	7	--
LSD (0.05)	14	16	12	--

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

SOUTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

Ottawa, Franklin County East Central Experiment Field
Planted: 6/6/2016
Harvested: 10/25/2016
140-40-15 lb/a N, P, K
Woodson silt loam
Previous crop: soybean

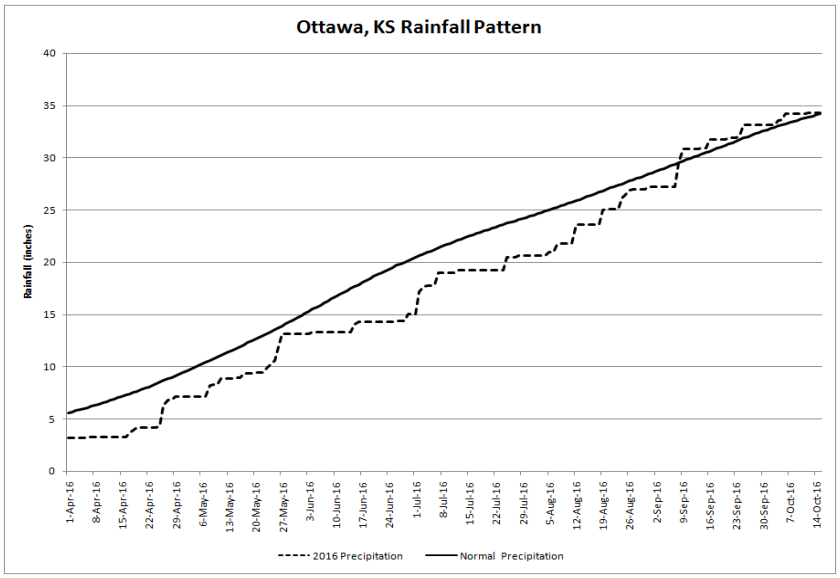

Table 7. Franklin County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1203	59	110	--	84	--	103	96	--	50	13	57	--	--	60
ALTA	AG2103	47	**119**	--	83	--	83	104	--	51	12	60	--	--	53
ALTA	AG2105	53	**120**	--	86	--	92	105	--	51	12	61	--	--	54
ALTA	AG3101	57	110	--	84	--	101	96	--	53	13	60	--	--	54
ALTA	AG3201	58	**124**	--	91	--	102	109	--	51	11	59	--	--	57
ALTA	XG2117	42	--	--	--	--	74	--	--	53	17	57	--	--	58
ALTA	XG2118	47	--	--	--	--	83	--	--	53	12	60	--	--	57
CHROMATIN	CHR0029	39	--	--	--	--	69	--	--	55	14	59	--	--	55
CHROMATIN	CHR0073	44	--	--	--	--	78	--	--	53	12	59	--	--	53
CHROMATIN	CHR2042	50	--	--	--	--	88	--	--	54	12	60	--	--	56
DEKALB	DKS38-16	**67**	--	--	--	--	117	--	--	51	11	61	--	--	58
DEKALB	DKS45-23	60	--	--	--	--	105	--	--	53	12	60	--	--	58
DEKALB	DKS51-01	**75**	**130**	--	102	--	131	113	--	54	12	60	--	--	55
DEKALB	DKS53-53	**75**	**121**	**128**	98	108	132	106	110	55	11	60	--	--	57
DEKALB	EARLY	**73**	--	--	--	--	128	--	--	47	11	59	--	--	55
DEKALB	LATE	**74**	--	--	--	--	130	--	--	55	12	60	--	--	54
DEKALB	MED	52	--	--	--	--	92	--	--	50	11	60	--	--	59
DYNA-GRO	GX16675	60	--	--	--	--	106	--	--	57	14	60	--	--	54
MATURITY CHECK	EARLY	**72**	**125**	--	98	--	126	109	--	49	11	61	--	--	45
MATURITY CHECK	LATE	**68**	116	--	92	--	119	101	--	54	12	65	--	--	55
MATURITY CHECK	MED	53	110	--	81	--	93	96	--	50	12	59	--	--	57
SORGHUM PARTNERS	SP 68M57	46	--	--	--	--	81	--	--	52	11	61	--	--	56
SORGHUM PARTNERS	SP 73B12	42	--	--	--	--	74	--	--	55	12	59	--	--	58
SORGHUM PARTNERS	SP 78M30	52	--	--	--	--	92	--	--	56	12	59	--	--	55
	Average	57	115	116	86	96	100	100	100	52	12	60	--	--	56
	CV (%)	12	7	6	--	--	12	7	6	2	11	4	--	--	--
	LSD (0.05)	9	12	10	--	--	16	11	8	1	2	3	--	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

SOUTHEAST KANSAS DRYLAND GRAIN SORGHUM TEST

Parsons, Labette County
Southeast Agricultural Research Center
Planted: 5/6/2016
Harvested: 10/4/2016
120-46-60 lb/a N, P, K
Parsons silt loam
Previous crop: soybean

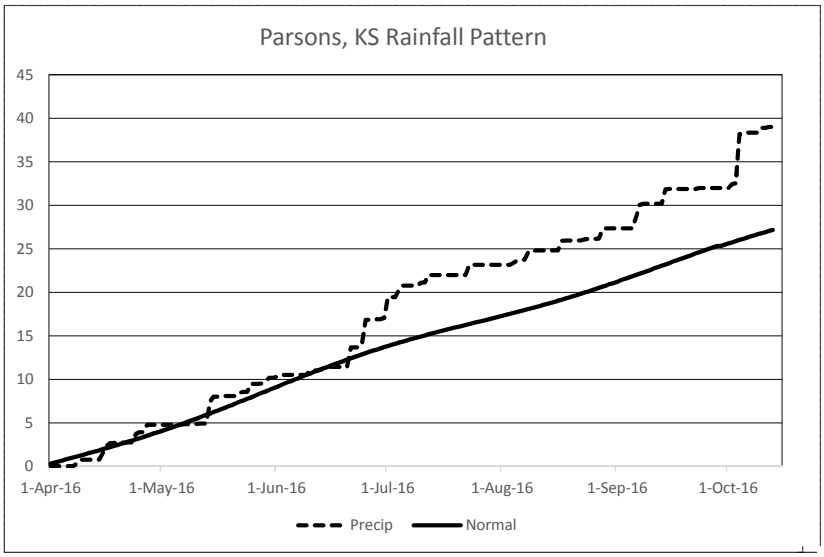

Table 8. Labette County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1203	76	**79**	107	78	87	90	202	98	--	13	--	55	0	68
ALTA	AG2103	79	40	--	60	--	94	102	--	--	13	--	54	0	60
ALTA	AG2105	81	52	48	66	60	96	133	44	--	14	--	60	0	54
ALTA	AG3101	62	13	--	37	--	73	32	--	--	14	--	63	17	73
ALTA	AG3201	93	30	--	62	--	110	77	--	--	14	--	54	0	66
ALTA	XG2117	93	--	--	--	--	110	--	--	--	14	--	56	0	63
ALTA	XG2118	**110**	--	--	--	--	131	--	--	--	14	--	58	0	72
CHROMATIN	CHR0029	89	--	--	--	--	106	--	--	--	14	--	57	0	62
CHROMATIN	CHR0073	83	--	--	--	--	98	--	--	--	13	--	58	0	66
CHROMATIN	CHR2042	72	--	--	--	--	86	--	--	--	14	--	59	0	46
DEKALB	DKS38-16	92	--	--	--	--	110	--	--	--	14	--	54	0	65
DEKALB	DKS45-23	**107**	--	--	--	--	126	--	--	--	14	--	57	0	68
DEKALB	DKS51-01	66	46	140	56	84	79	118	128	--	14	--	58	13	66
DEKALB	DKS53-53	**113**	25	108	69	82	134	65	117	--	13	--	59	0	67
DEKALB	EARLY	55	--	--	--	--	65	--	--	--	14	--	49	0	58
DEKALB	LATE	100	--	--	--	--	118	--	--	--	14	--	56	0	43
DEKALB	MED	84	--	--	--	--	99	--	--	--	14	--	58	0	64
DYNA-GRO	GX16675	64	--	--	--	--	76	--	--	--	15	--	68	17	63
MATURITY CHECK	EARLY	91	31	--	61	--	107	78	--	--	13	--	51	0	45
MATURITY CHECK	LATE	81	--	--	--	--	96	--	--	--	13	--	56	0	45
MATURITY CHECK	MED	98	**73**	--	86	--	116	187	--	--	13	--	59	3	61
SORGHUM PARTNERS	SP 68M57	83	--	--	--	--	98	--	--	--	14	--	53	0	62
SORGHUM PARTNERS	SP 73B12	61	--	--	--	--	72	--	--	--	14	--	56	0	51
SORGHUM PARTNERS	SP 78M30	92	--	--	--	--	109	--	--	--	14	--	57	0	44
	Average	84	39	110	62	78	100	100	100	--	14	--	57	2	60
	CV (%)	7	10	11	--	--	7	10	11	--	5	--	4	--	8
	LSD (0.05)	8	6	17	--	--	10	14	16	--	1	--	3	16	7

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 9. SOUTHEAST Kansas Grain Sorghum Hybrid Yield Summary (% of test avg.), 2016

BRAND/NAME	FRD	LBD	AVG.
ALTA			
AG1203	103	90	97
AG2103	83	94	89
AG2105	92	96	94
AG3101	101	73	87
AG3201	102	110	106
XG2117	74	110	92
XG2118	83	131	107
CHROMATIN			
CHR0029	69	106	87
CHR0073	78	98	88
CHR2042	88	86	87
DEKALB			
DKS38-16	117	110	113
DKS45-23	105	126	116
DKS51-01	131	79	105
DKS53-53	132	134	133
EARLY	128	65	96
LATE	130	118	124
MED	92	99	95
DYNA-GRO			
GX16675	106	76	91
SORGHUM PARTNERS			
SP 68M57	81	98	90
SP 73B12	74	72	73
SP 78M30	92	109	101
MATURITY CHECK			
EARLY	126	107	117
LATE	119	96	108
MED	93	116	105
AVERAGES (bu/a)	57	84	71
CV (%)	12	7	--
LSD (0.05)	16	10	--

FRD = Franklin Co., Ottawa LBD = Labette Co., Parsons

CENTRAL KANSAS DRYLAND GRAIN SORGHUM TEST

Hutchinson, Reno County
Southwest Seed Research Farm
Planted: 6/29/2016
Harvested: 11/18/2016
100-0-0 lb/a N, P, K
Punkin silt loam
Previous crop: wheat

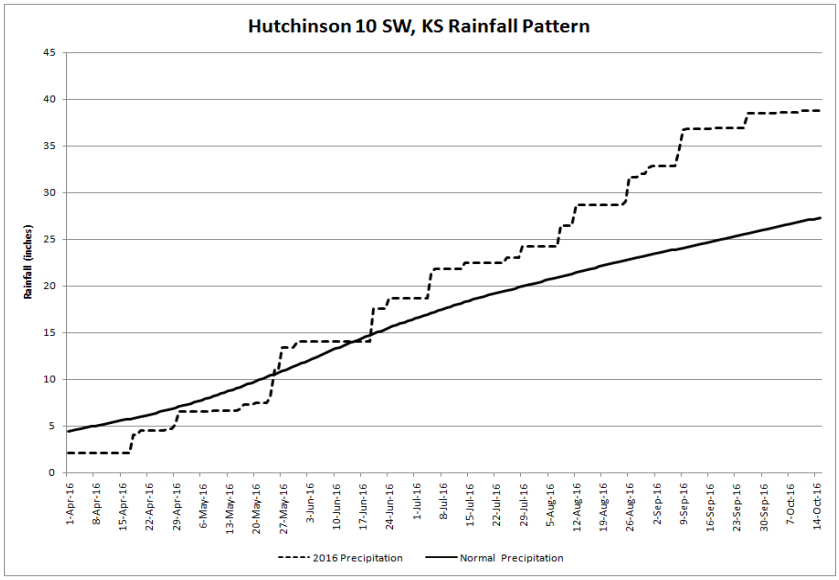

Table 10. Reno County Dryland Grain Sorghum Performance Test, 2014-2016

BRAND	NAME	ACRE YIELD, BUSHELS 2016	2015	2014	2-yr. AVG.	3-yr. AVG.	YIELD AS % OF TEST AVERAGE 2016	2015	2014	Days to blm	Grain moist. %	Test wt. lb/bu	Plnt ht. in.	Ldg %	Pop. 1000 ppa
ALTA	AG1203	110	**113**	56	111	93	167	114	71	--	16	60	--	--	--
ALTA	AG1301	75	82	--	79	--	115	83	--	--	17	60	--	--	--
ALTA	AG2115	55	92	93	74	80	84	93	118	--	17	59	--	--	--
ALTA	AG3201	76	--	--	--	--	116	--	--	--	16	59	--	--	--
ALTA	XG2117	83	--	--	--	--	126	--	--	--	16	61	--	--	--
ALTA	XG2118	82	--	--	--	--	125	--	--	--	17	60	--	--	--
CHROMATIN	CHR0029	96	--	--	--	--	145	--	--	--	17	59	--	--	--
CHROMATIN	CHR0073	71	--	--	--	--	108	--	--	--	16	61	--	--	--
CHROMATIN	CHR2042	69	--	--	--	--	104	--	--	--	18	59	--	--	--
DEKALB	DKS38-16	50	--	--	--	--	75	--	--	--	15	57	--	--	--
DEKALB	DKS45-23	37	--	--	--	--	56	--	--	--	16	56	--	--	--
DEKALB	DKS51-01	45	**114**	81	80	80	69	115	103	--	15	58	--	--	--
DEKALB	DKS53-53	46	90	79	68	72	70	91	101	--	17	55	--	--	--
DEKALB	EARLY	42	--	--	--	--	64	--	--	--	14	50	--	--	--
DEKALB	LATE	39	--	--	--	--	60	--	--	--	16	55	--	--	--
DEKALB	MED	62	--	--	--	--	95	--	--	--	16	59	--	--	--
DYNA-GRO	772B	31	--	--	--	--	46	--	--	--	15	54	--	--	--
DYNA-GRO	GX15371	**124**	--	--	--	--	189	--	--	--	17	62	--	--	--
DYNA-GRO	GX15373	71	--	--	--	--	107	--	--	--	16	58	--	--	--
DYNA-GRO	GX15484	**117**	--	--	--	--	178	--	--	--	18	62	--	--	--
DYNA-GRO	GX15561	102	--	--	--	--	155	--	--	--	16	60	--	--	--
DYNA-GRO	GX15672	44	--	--	--	--	66	--	--	--	17	58	--	--	--
DYNA-GRO	GX16173	33	--	--	--	--	50	--	--	--	13	50	--	--	--
DYNA-GRO	GX16612	75	--	--	--	--	114	--	--	--	15	60	--	--	--
DYNA-GRO	GX16667	27	--	--	--	--	41	--	--	--	11	50	--	--	--
DYNA-GRO	GX16675	112	--	--	--	--	171	--	--	--	15	62	--	--	--
DYNA-GRO	GX16957	39	--	--	--	--	60	--	--	--	11	50	--	--	--
DYNA-GRO	GX16968	61	--	--	--	--	93	--	--	--	16	58	--	--	--
DYNA-GRO	GX16970	42	--	--	--	--	64	--	--	--	16	54	--	--	--
DYNA-GRO	GX16988	62	--	--	--	--	95	--	--	--	16	58	--	--	--
DYNA-GRO	M58GR24	38	--	--	--	--	58	--	--	--	15	55	--	--	--
DYNA-GRO	M60GB31	**124**	--	--	--	--	188	--	--	--	19	60	--	--	--
HEARTLAND GENETICS	HG45-C	15	104	--	60	--	23	105	--	--	10	50	--	--	--
HEARTLAND GENETICS	HG48-B	42	84	100	63	75	63	85	128	--	13	57	--	--	--
HEARTLAND GENETICS	HG52-B	76	**115**	75	95	89	115	116	96	--	15	57	--	--	--
MATURITY CHECK	EARLY	51	**110**	--	81	--	78	112	--	--	16	58	--	--	--
MATURITY CHECK	LATE	60	97	--	79	--	91	98	--	--	18	58	--	--	--
MATURITY CHECK	MED	66	84	--	75	--	101	85	--	--	16	57	--	--	--
PHILLIPS	595	76	--	--	--	--	116	--	--	--	15	57	--	--	--
PHILLIPS	672	37	--	--	--	--	56	--	--	--	14	54	--	--	--
POLANSKY	5761	88	**123**	97	106	103	134	124	123	--	17	57	--	--	--
POLANSKY	5651Y	50	**114**	--	82	--	77	115	--	--	16	59	--	--	--
SORGHUM PARTNERS	SP 68M57	68	--	--	--	--	103	--	--	--	15	59	--	--	--
SORGHUM PARTNERS	SP 73B12	**125**	--	--	--	--	189	--	--	--	15	62	--	--	--
	Average	66	99	79	82	81	100	100	100	--	16	57	--	--	--
	CV (%)	12	12	12	--	--	12	12	11	--	14	3	--	--	--
	LSD (0.05)	11	17	13	--	--	17	17	15	--	3	3	--	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 11. CENTRAL Kansas Sorghum Hybrid Yield Summary (% of test avg.), 2016

BRAND/NAME	SAD	RND	AVG.
ALTA			
AG1203	--	167	167
AG1301	--	115	115
AG2115	--	84	84
AG3201	--	116	116
XG2117	--	126	126
XG2118	--	125	125
CHROMATIN			
CHR0029	--	145	145
CHR0073	--	108	108
CHR2042	--	104	104
DEKALB			
DKS38-16	--	75	75
DKS45-23	--	56	56
DKS51-01	--	69	69
DKS53-53	--	70	70
EARLY	--	64	64
LATE	--	60	60
MED	--	95	95
DYNA-GRO			
772B	--	46	46
GX15371	--	189	189
GX15373	--	107	107
GX15484	--	178	178
GX15561	--	155	155
GX15672	--	66	66
GX16173	--	50	50
GX16612	--	114	114
GX16667	--	41	41
GX16675	--	171	171
GX16957	--	60	60
GX16968	--	93	93
GX16970	--	64	64
GX16988	--	95	95
M58GR24	--	58	58
M60GB31	--	188	188
HEARTLAND GENETICS			
HG45-C	--	23	23
HG48-B	--	63	63
HG52-B	--	115	115
PHILLIPS			
595	--	116	116
672	--	56	56
POLANSKY			
5651Y	--	77	77
5761	--	134	134
SORGHUM PARTNERS			
SP 68M57	--	103	103
SP 73B12	--	189	189
MATURITY CHECK			
EARLY	--	78	78
LATE	--	91	91
MED	--	101	101
AVERAGES (bu/a)	--	66	66
CV (%)	--	12	12
LSD (0.05)	--	17	17

SAD = Saline Co., Assaria; abandoned, severe SCA infestation.

RND = Reno Co., Hutchinson

WESTERN KANSAS DRYLAND GRAIN SORGHUM TEST

Hays, Ellis County
Western Kansas Research Center
Planted: 5/13/2016
Harvested: 10/18/2016
80-0-0 lb/a N, P, K
Harney clay loam
Previous crop: wheat

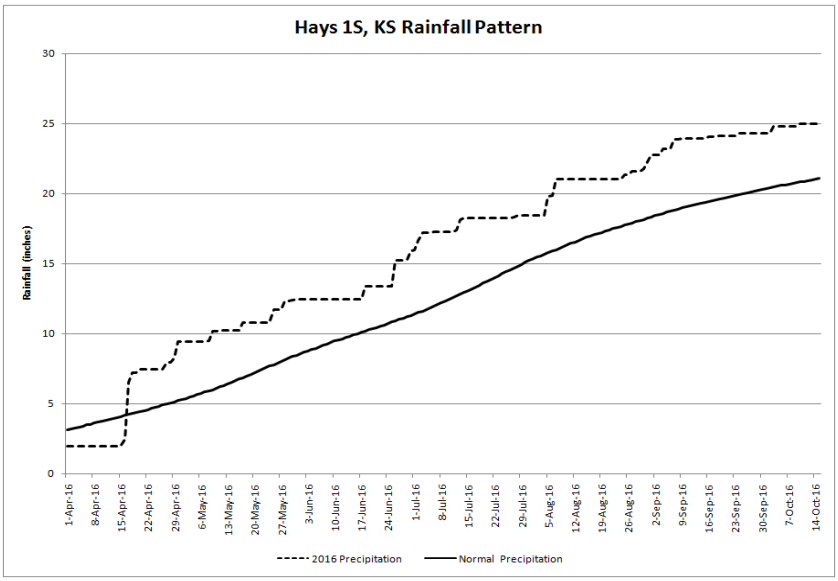

Table 12. Ellis County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
BRAND	NAME	2016	2015	2014	2-yr. AVG.	3-yr. AVG.	2016	2015	2014	to blm	moist. %	wt. lb/bu	ht. in.	Ldg %	1000 ppa
ALTA	AG1201	89	--	--	--	--	90	--	--	66	13	61	38	--	28
ALTA	AG1203	**126**	--	--	--	--	127	--	--	70	12	65	49	--	25
ALTA	AG1301	101	--	--	--	--	102	--	--	69	12	62	42	--	18
ALTA	AG2115	107	--	--	--	--	108	--	--	71	12	62	47	--	24
ALTA	XG2117	75	--	--	--	--	76	--	--	75	12	61	49	--	19
ALTA	XG2118	92	--	--	--	--	93	--	--	73	14	62	46	--	24
CHROMATIN	CHR0039	63	--	--	--	--	63	--	--	64	11	56	35	--	27
CHROMATIN	CHR0073	102	--	--	--	--	103	--	--	73	12	63	45	--	20
DEKALB	DKS28-05	79	--	66	73	--	80	--	83	64	12	59	41	--	22
DEKALB	DKS37-07	105	--	88	96	--	106	--	110	65	13	62	46	--	33
DEKALB	DKS38-16	**116**	--	--	--	--	117	--	--	67	12	65	46	--	27
DEKALB	DKS51-01	**114**	--	--	--	--	116	--	--	74	13	65	52	--	21
DEKALB	EARLY	96	--	--	--	--	97	--	--	64	12	59	36	--	20
DEKALB	LATE	**124**	--	--	--	--	126	--	--	75	12	64	51	--	27
DEKALB	MED	110	--	--	--	--	111	--	--	70	13	64	50	--	26
DYNA-GRO	GX16667	**119**	--	--	--	--	120	--	--	74	13	63	54	--	23
DYNA-GRO	GX16957	85	--	--	--	--	86	--	--	64	11	60	39	--	28
DYNA-GRO	GX16988	99	--	--	--	--	100	--	--	69	12	61	43	--	23
DYNA-GRO	M58GR24	101	--	--	--	--	102	--	--	66	13	58	45	--	21
DYNA-GRO	M60GB31	111	--	--	--	--	112	--	--	70	12	65	50	--	24
GOLDEN ACRES	X-2699	103	--	--	--	--	104	--	--	75	12	63	45	--	27
HEARTLAND GENETICS	HG44-R	82	--	--	--	--	83	--	--	64	13	59	42	--	27
HEARTLAND GENETICS	HG45-C	96	--	--	--	--	97	--	--	75	12	61	50	--	23
HEARTLAND GENETICS	HG48-B	98	--	**91**	95	--	99	--	114	71	12	63	41	--	29
HEARTLAND GENETICS	HG52-B	**118**	--	89	104	--	119	--	112	73	12	63	49	--	24
MATURITY CHECK	EARLY	**125**	--	60	92	--	126	--	75	66	12	64	48	--	26
MATURITY CHECK	LATE	**122**	--	81	101	--	123	--	102	75	13	63	45	--	27
MATURITY CHECK	MED	**120**	--	89	105	--	121	--	112	70	13	63	49	--	26
PHILLIPS	595	90	--	--	--	--	91	--	--	66	12	61	37	--	21
PHILLIPS	672	108	--	--	--	--	109	--	--	71	12	63	49	--	26
POLANSKY	5526	91	--	--	--	--	92	--	--	70	12	62	44	--	22
POLANSKY	5665W	91	--	**101**	96	--	92	--	126	74	12	62	46	--	24
SORGHUM PARTNERS	SP 31A15	90	--	--	--	--	91	--	--	66	12	59	42	--	22
SORGHUM PARTNERS	SP 34A19	86	--	--	--	--	87	--	--	67	12	60	43	--	28
SORGHUM PARTNERS	SP 68M57	92	--	--	--	--	93	--	--	69	13	62	44	--	25
WKARCH	KS 116A/ARCH 11028R	66	--	--	--	--	67	--	--	69	12	61	44	--	21
WKARCH	KS 133A/ARCH 11001R	97	--	--	--	--	98	--	--	70	12	62	45	--	21
WKARCH	KS 133A/ARCH 11028R	94	--	--	--	--	95	--	--	67	12	61	47	--	23
WKARCH	KS 136A/ARCH 11001R	104	--	--	--	--	105	--	--	75	13	62	50	--	18
WKARCH	KS 136A/ARCH 11028R	90	--	--	--	--	91	--	--	69	13	61	49	--	19
WKARCH	KS 136A/ARCH 11055R	**117**	--	--	--	--	119	--	--	77	14	60	51	--	18
WKARCH	TX /ARCH 11001	87	--	--	--	--	88	--	--	73	12	63	48	--	16
WKARCH	TX /ARCH 11028	75	--	--	--	--	76	--	--	70	13	62	46	--	18
WKARCH	TX /ARCH 11055	95	--	--	--	--	96	--	--	80	13	62	52	--	19
	Average	99	--	80	90	--	100	--	100	70	12	62	46	--	23
	CV (%)	9	--	9	--	--	9	--	9	2	6	1	7	--	--
	LSD (0.05)	13	--	10	--	--	13	--	12	2	1	1	0	--	6

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

WESTERN KANSAS DRYLAND GRAIN SORGHUM TEST

Colby, Thomas County
K-State Northwest Research Center
Planted: 6/1/2016
Harvested: 10/18/2016
50-0-0 lb/a N, P, K
Keith silt loam
Previous crop: fallow

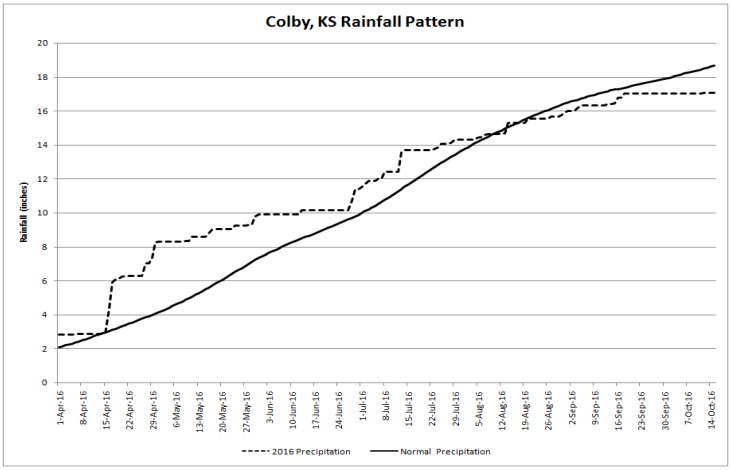

Table 13. Thomas County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1201	75	56	86	66	72	79	90	82	57	14	57	38	2	26
ALTA	AG1203	105	64	**130**	85	100	111	103	123	63	15	59	46	2	26
ALTA	AG1301	110	87	--	98	66	116	140	--	63	15	58	43	2	25
ALTA	AG2115	94	63	106	79	88	100	102	101	60	15	58	44	2	24
ALTA	XG2117	86	--	--	43	29	90	--	--	69	17	57	48	2	26
ALTA	XG2118	84	--	--	42	28	89	--	--	62	16	58	47	2	24
B-H GENETICS	BH 3400	59	44	95	51	66	62	72	90	50	14	58	41	2	24
B-H GENETICS	BH 3808	97	86	109	92	97	102	139	104	62	15	59	45	2	22
B-H GENETICS	XPS1503	70	--	--	35	23	74	--	--	59	14	60	41	2	19
CHROMATIN	CHR0039	68	--	--	34	23	71	--	--	53	13	57	34	3	19
CHROMATIN	CHR0073	106	--	--	53	35	112	--	--	64	16	59	47	2	23
CHROMATIN	CHR0163	92	--	--	46	31	97	--	--	59	15	57	42	3	6
DEKALB	DKS28-05	107	52	105	80	88	113	85	100	56	15	60	46	2	27
DEKALB	DKS37-07	89	58	--	74	49	94	94	--	62	15	60	45	2	24
DEKALB	DKS38-16	**120**	--	--	60	40	126	--	--	59	15	59	46	2	25
DEKALB	DKS51-01	86	--	--	43	29	91	--	--	62	15	58	46	2	24
DEKALB	EARLY	88	--	--	44	29	93	--	--	58	15	57	45	2	24
DEKALB	LATE	**121**	--	--	61	40	128	45	--	66	16	57	47	2	26
DEKALB	MED	106	--	--	53	35	112	112	--	61	15	58	47	2	25
DYNA-GRO	GX16612	80	--	--	40	27	84	--	--	54	14	58	39	2	24
DYNA-GRO	GX16957	91	--	--	46	30	96	--	--	55	15	58	43	2	25
DYNA-GRO	GX16988	98	--	--	49	33	103	--	--	62	14	56	47	2	26
DYNA-GRO	M58GR24	81	--	--	40	27	85	--	--	58	13	56	46	2	20
DYNA-GRO	M60GB31	108	--	--	54	36	114	--	--	62	15	59	44	2	22
GAYLAND WARD SEED	EXP 8016	99	--	--	50	33	105	--	--	60	15	59	48	2	21
GAYLAND WARD SEED	EXP 8017	92	--	--	46	31	96	--	--	64	16	58	48	2	20
GAYLAND WARD SEED	EXP 9050	97	--	--	49	32	103	--	--	66	17	58	47	2	24
GAYLAND WARD SEED	EXP 9058	92	--	--	46	31	97	--	--	63	15	57	48	2	25
GAYLAND WARD SEED	EXP 9066	76	--	--	38	25	80	--	--	62	16	58	54	1	24
GAYLAND WARD SEED	EXP 9099	98	--	--	49	33	103	--	--	61	16	58	47	2	20
GAYLAND WARD SEED	EXP 9100	100	--	--	50	33	105	--	--	66	16	60	49	1	23
GAYLAND WARD SEED	EXP 9123	88	--	--	44	29	93	--	--	63	15	59	46	2	20
GAYLAND WARD SEED	EXP 9125	103	--	--	52	34	109	--	--	63	15	58	48	2	19
GAYLAND WARD SEED	EXP 9126	100	--	--	50	33	105	--	--	61	15	57	50	2	24
GAYLAND WARD SEED	EXP 9127	90	--	--	45	30	95	--	--	61	14	58	51	2	26
GAYLAND WARD SEED	EXP 9132	104	--	--	52	35	110	--	--	65	16	57	46	2	21
GAYLAND WARD SEED	EXP 9135	87	--	--	43	29	91	--	--	63	15	58	43	2	22
GAYLAND WARD SEED	GW 9417	85	--	--	43	28	90	--	--	63	17	58	48	2	23
GOLDEN ACRES	X-2699	100	--	--	50	33	106	--	--	65	17	58	46	2	20
MATURITY CHECK	EARLY	106	81	--	94	62	112	131	--	68	15	56	45	2	25
MATURITY CHECK	LATE	100	28	--	64	43	105	--	--	60	16	59	49	2	22
MATURITY CHECK	MED	106	69	--	87	58	111	--	--	60	15	60	47	2	25
NUTECH	EX 626	**126**	--	--	63	42	132	--	--	63	16	59	45	2	27
NUTECH	EX 676	105	--	--	53	35	111	--	--	65	16	58	44	2	25
NUTECH	GS 623	93	50	--	72	48	98	81	--	55	15	59	46	2	24
NUTECH	GS 663	**112**	--	--	56	37	119	--	--	63	15	58	44	2	23
SORGHUM PARTNERS	SP 31A15	103	--	--	51	34	108	--	--	60	14	57	44	2	22
SORGHUM PARTNERS	SP 34A19	89	--	--	44	30	94	--	--	60	15	58	42	2	22
SORGHUM PARTNERS	SP 68M57	77	--	--	38	26	81	--	--	60	16	58	44	2	21
	Average	95	62	105	78	87	100	100	100	61	15	58	45	2	23
	CV (%)	11	11	11	--	--	11	11	11	5	6	3	5	16	11
	LSD (0.05)	15	9	16	--	--	15	15	15	4	1	3	3	0	4

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

WESTERN KANSAS DRYLAND GRAIN SORGHUM TEST

Tribune, Greeley County
K-State Northwest Research Center
Planted: 5/26/2016
Harvested: 10/19/2016
90-40-0 lb/a N, P, K
Ulyssess silt loam
Previous crop: fallow

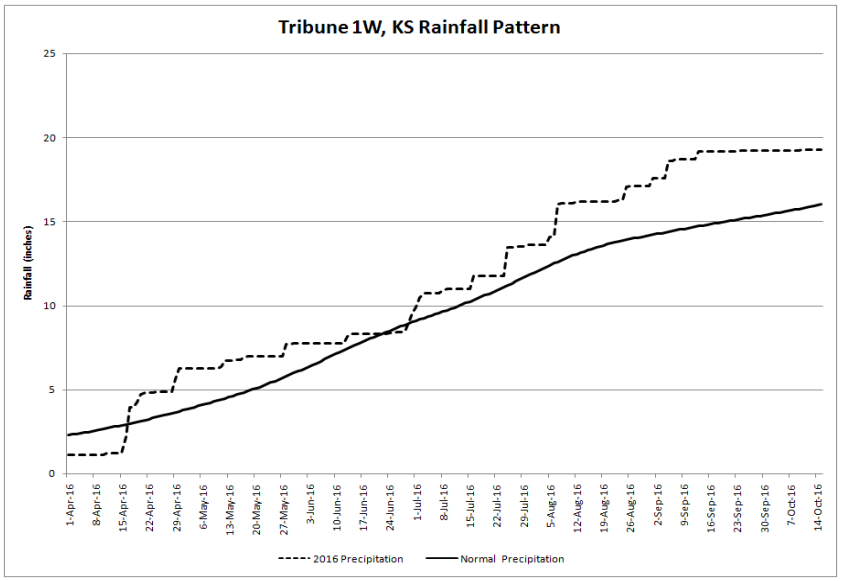

Table 14. Greeley County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1201	116	120	--	118	--	86	86	--	62	11	56	42	--	--
ALTA	AG1203	**156**	**152**	--	154	--	116	109	--	66	12	59	52	--	--
ALTA	AG1301	136	136	--	136	--	101	98	--	65	12	58	47	--	--
ALTA	AG2115	133	135	--	134	--	99	97	--	66	11	57	50	--	--
ALTA	XG2117	131	--	--	--	--	97	--	--	68	11	58	55	--	--
ALTA	XG2118	136	--	--	--	--	101	--	--	67	13	60	55	--	--
B-H GENETICS	BH 3808	133	--	--	--	--	98	--	--	65	11	59	51	--	--
B-H GENETICS	BH 4100	**167**	--	--	--	--	124	--	--	67	11	59	51	--	--
B-H GENETICS	BH 4200C	118	137	--	127	--	88	98	--	63	11	57	49	--	--
B-H GENETICS	XPS 1601W	142	--	--	--	--	105	--	--	66	12	58	46	--	--
B-H GENETICS	XPS 1615W	152	--	--	--	--	113	--	--	64	12	59	51	--	--
CHROMATIN	CHR0073	142	--	--	--	--	106	--	--	68	12	59	54	--	--
DEKALB	DKS28-05	120	144	**129**	132	131	89	103	123	60	11	57	49	--	--
DEKALB	DKS37-07	133	**152**	113	143	133	99	109	107	63	11	60	51	--	--
DEKALB	DKS38-16	141	--	--	--	--	105	--	--	62	12	61	55	--	--
DEKALB	DKS51-01	134	--	--	--	--	99	--	--	67	12	59	57	--	--
DEKALB	EARLY	121	--	--	--	--	90	--	--	59	11	57	48	--	--
DEKALB	LATE	**157**	--	--	--	--	116	--	--	69	12	59	54	--	--
DEKALB	MED	143	--	--	--	--	106	--	--	64	12	59	54	--	--
DYNA-GRO	GX16957	105	--	--	--	--	78	--	--	56	11	58	42	--	--
DYNA-GRO	GX16988	143	--	--	--	--	106	--	--	63	11	58	51	--	--
DYNA-GRO	M58GR24	117	--	--	--	--	87	--	--	59	11	58	53	--	--
DYNA-GRO	M60GB31	155	--	--	--	--	115	--	--	67	12	60	52	--	--
GOLDEN ACRES	X-2699	133	--	--	--	--	99	--	--	69	12	58	50	--	--
HEARTLAND GENETICS	HG 44-R	143	--	--	--	--	107	--	--	65	12	56	46	--	--
MATURITY CHECK	EARLY	129	**155**	--	142	--	96	--	--	60	12	58	51	--	--
MATURITY CHECK	LATE	**160**	118	--	139	--	119	--	--	70	12	60	54	--	--
MATURITY CHECK	MED	**161**	**170**	--	166	--	120	--	--	64	12	60	54	--	--
NUTECH	EX 626	155	--	--	--	--	115	--	--	66	12	59	51	--	--
NUTECH	EX 676	141	--	--	--	--	105	--	--	69	12	59	49	--	--
NUTECH	GS 623	111	146	--	128	--	82	105		58	11	59	50	--	--
NUTECH	GS 663	140	--	--	--	--	104	--	--	63	12	59	50	--	--
PHILLIPS	595	118	--	--	--	--	87	--	--	63	11	56	42	--	--
PHILLIPS	672	126	--	--	--	--	93	--	--	66	11	58	51	--	--
SORGHUM PARTNERS	SP 31A15	119	--	--	--	--	88	--	--	62	11	58	49	--	--
SORGHUM PARTNERS	SP 34A19	130	--	--	--	--	96	--	--	63	11	57	50	--	--
SORGHUM PARTNERS	SP 68M57	133	--	--	--	--	99	--	--	64	12	59	50	--	--
	Average	135	139	105	137	126	100	100	100	64	12	58	50	--	--
	CV (%)	6	9	6	--	--	6	9	6	1	4	1	3	--	--
	LSD (0.05)	11	17	9	--	--	8	13	9	1	1	1	2	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Garden City, Finney County
K-State Southwest Research Center
Planted: 6/3/2016
Harvested: 10/18/2016
100-0-0 lb/a N, P, K
Keith silt loam
Previous crop: wheat

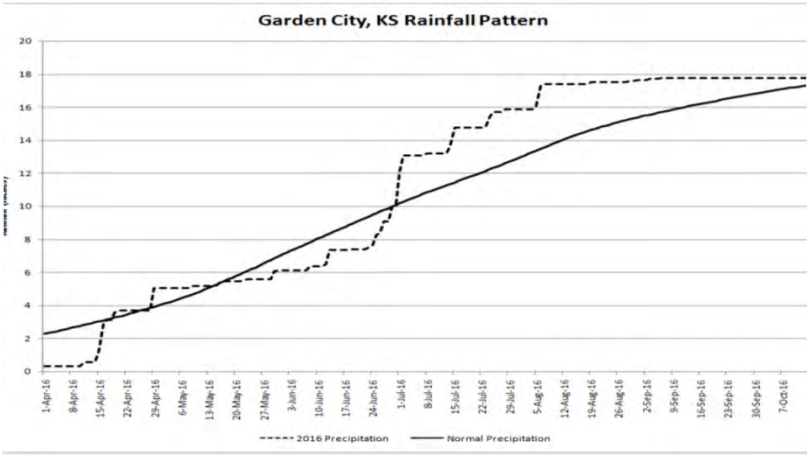

Table 15. Finney County Dryland Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE								
BRAND	NAME	2016	2015	2014	2-yr. AVG.	3-yr. AVG.	2016	2015	2014	Days to blm	Grain moist. %	Test wt. lb/bu	Plnt ht. in.	Ldg %	Pop. 1000 ppa
ALTA	AG1201	106	75	--	90	--	110	60	--	--	13	51	--	--	--
ALTA	AG1203	114	116	--	115	--	119	93	--	--	13	58	--	--	--
ALTA	AG1301	106	122	--	114	--	110	98	--	--	16	54	--	--	--
ALTA	AG2115	114	109	--	111	--	118	88	--	--	12	57	--	--	--
ALTA	XG2117	75	--	--	--	--	78	--	--	--	14	57	--	--	--
ALTA	XG2118	115	--	--	--	--	119	--	--	--	12	58	--	--	--
B-H GENETICS	BH 3808	78	--	--	--	--	81	--	--	--	13	59	--	--	--
B-H GENETICS	BH 5224	74	--	--	--	--	77	--	--	--	12	59	--	--	--
B-H GENETICS	XPS1503	74	--	--	--	--	77	--	--	--	12	58	--	--	--
CHROMATIN	CHR0039	74	--	--	--	--	77	--	--	--	11	58	--	--	--
CHROMATIN	CHR0073	72	--	--	--	--	75	--	--	--	13	58	--	--	--
CHROMATIN	CHR0163	105	--	--	--	--	109	--	--	--	12	57	--	--	--
DEKALB	DKS28-05	109	127	--	118	--	113	102	--	--	12	58	--	--	--
DEKALB	DKS37-07	101	112	--	107	--	105	90	--	--	17	56	--	--	--
DEKALB	DKS38-16	112	--	--	--	--	116	--	--	--	12	58	--	--	--
DEKALB	DKS51-01	101	--	--	--	--	105	--	--	--	12	58	--	--	--
DEKALB	EARLY	92	--	--	--	--	95	--	--	--	13	56	--	--	--
DEKALB	LATE	62	--	--	--	--	65	--	--	--	13	55	--	--	--
DEKALB	MED	98	--	--	--	--	102	--	--	--	12	58	--	--	--
DYNA-GRO	GX16667	92	--	--	--	--	96	--	--	--	11	56	--	--	--
DYNA-GRO	GX16675	108	--	--	--	--	112	--	--	--	13	57	--	--	--
DYNA-GRO	GX16957	114	--	--	--	--	118	--	--	--	11	57	--	--	--
DYNA-GRO	GX16968	93	--	--	--	--	97	--	--	--	11	58	--	--	--
DYNA-GRO	GX16988	98	--	--	--	--	101	--	--	--	12	57	--	--	--
DYNA-GRO	M60GB31	89	--	--	--	--	92	--	--	--	14	57	--	--	--
GAYLAND WARD SEED	EXP 8016	101	--	--	--	--	105	--	--	--	12	57	--	--	--
GAYLAND WARD SEED	EXP 8017	94	--	--	--	--	98	--	--	--	11	58	--	--	--
GAYLAND WARD SEED	EXP 9050	**130**	--	--	--	--	135	--	--	--	13	59	--	--	--
GAYLAND WARD SEED	EXP 9058	118	--	--	--	--	123	--	--	--	14	57	--	--	--
GAYLAND WARD SEED	EXP 9066	64	--	--	--	--	67	--	--	--	13	57	--	--	--
GAYLAND WARD SEED	EXP 9099	104	--	--	--	--	108	--	--	--	12	57	--	--	--
GAYLAND WARD SEED	EXP 9100	100	--	--	--	--	104	--	--	--	13	58	--	--	--
GAYLAND WARD SEED	EXP 9123	111	--	--	--	--	116	--	--	--	11	57	--	--	--
GAYLAND WARD SEED	EXP 9125	101	--	--	--	--	105	--	--	--	12	57	--	--	--
GAYLAND WARD SEED	EXP 9126	108	--	--	--	--	113	--	--	--	15	56	--	--	--
GAYLAND WARD SEED	EXP 9127	97	--	--	--	--	101	--	--	--	13	56	--	--	--
GAYLAND WARD SEED	EXP 9132	93	--	--	--	--	97	--	--	--	14	57	--	--	--
GAYLAND WARD SEED	EXP 9135	107	--	--	--	--	111	--	--	--	12	57	--	--	--
GAYLAND WARD SEED	GW 9417	116	--	--	--	--	120	--	--	--	14	56	--	--	--
GOLDEN ACRES	X-2699	98	--	--	--	--	101	--	--	--	13	58	--	--	--
HEARTLAND GENETICS	HG 23-R	72	--	--	--	--	74	--	--	--	12	58	--	--	--
HEARTLAND GENETICS	HG 44-R	84	--	--	--	--	88	--	--	--	12	58	--	--	--
HEARTLAND GENETICS	HG 48-B	100	--	--	--	--	104	--	--	--	12	59	--	--	--
MATURITY CHECK	EARLY	102	181	--	142	--	106	145	--	--	14	56	--	--	--
MATURITY CHECK	LATE	90	112	--	101	--	94	90	--	--	17	57	--	--	--
MATURITY CHECK	MED	74	160	--	117	--	76	129	--	--	11	56	--	--	--
NUTECH	EX 626	108	--	--	--	--	112	--	--	--	11	57	--	--	--
NUTECH	EX 676	78	--	--	--	--	81	--	--	--	18	56	--	--	--
NUTECH	GS 623	104	168	--	136	--	108	136	--	--	14	57	--	--	--
NUTECH	GS 663	117	--	--	--	--	122	--	--	--	13	58	--	--	--
NUTECH	GS 693	80	123	--	102	--	83	99	--	--	16	57	--	--	--
NUTECH	GS 725	97	--	--	--	--	101	--	--	--	11	57	--	--	--

Table 15 continued. Finney County Dryland Grain Sorghum Performance Test, 2014-2016

BRAND	NAME	ACRE YIELD, BUSHELS 2016	2015	2014	2-yr. AVG.	3-yr. AVG.	YIELD AS % OF TEST AVERAGE 2016	2015	2014	Days to blm	Grain moist. %	Test wt. lb/bu	Plnt ht. in.	Ldg %	Pop. 1000 ppa
SORGHUM PARTNERS	SP 31A15	96	--	--	--	--	99	--	--	--	12	59	--	--	--
SORGHUM PARTNERS	SP 34A19	95	--	--	--	--	99	--	--	--	13	58	--	--	--
SORGHUM PARTNERS	SP 68M57	78	--	--	--	--	81	--	--	--	12	57	--	--	--
	Average	96	124	--	110	--	100	100	--	--	13	57	--	--	--
	CV (%)	8	7	--	--	--	8	7	--	--	26	5	--	--	--
	LSD (0.05)	11	12	--	--	--	12	10	--	--	5	4	--	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.

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

Table 16. WESTERN Kansas Grain Sorghum Hybrid Yield Summary (% of test avg.), 2016

BRAND/NAME	ELD	THD	GRD	FND	AVG.
ALTA					
AG1201	90	79	86	110	91
AG1203	127	111	116	119	118
AG1301	102	116	101	110	107
AG2115	108	100	99	118	106
XG2117	76	90	97	78	85
XG2118	93	89	101	119	100
B-H GENETICS					
BH 3400	--	62	--	--	--
BH 3808	--	102	98	81	--
BH 4100	--	--	124	--	--
BH 4200C	--	--	88	--	--
BH 5224	--	--	--	77	--
XPS 1601W	--	--	105	--	--
XPS 1615W	--	--	113	--	--
XPS1503	--	74	--	77	--
CHROMATIN					
CHR0039	63	71	65	77	69
CHR0073	103	112	106	75	99
CHR0163	--	97	--	109	--
DEKALB					
DKS28-05	80	113	89	113	99
DKS37-07	106	94	99	105	101
DKS38-16	117	126	105	116	116
DKS51-01	116	91	99	105	103
EARLY	97	93	90	95	94
LATE	126	128	116	65	109
MED	111	112	106	102	108
DYNA-GRO					
GX16612	--	84	--	--	--
GX16667	120	--	--	96	--
GX16675	--	--	--	112	--
GX16957	86	96	78	118	95
GX16968	--	--	--	97	--
GX16988	100	103	106	101	103
M58GR24	102	85	87	--	--
M60GB31	112	114	115	92	108

BRAND/NAME	ELD	THD	GRD	FND	AVG.
GAYLAND WARD SEED					
EXP 8016	--	105	--	105	--
EXP 8017	--	96	--	98	--
EXP 9050	--	103	--	135	--
EXP 9058	--	97	--	123	--
EXP 9066	--	80	--	67	--
EXP 9099	--	103	--	108	--
EXP 9100	--	105	--	104	--
EXP 9123	--	93	--	116	--
EXP 9125	--	109	--	105	--
EXP 9126	--	105	--	113	--
EXP 9127	--	95	--	101	--
EXP 9132	--	110	--	97	--
EXP 9135	--	91	--	111	--
GW 9417	--	90	--	120	--
GOLDEN ACRES					
X-2699	104	106	99	101	102
HEARTLAND GENETICS					
HG 23-R	83	--	107	74	--
HG 44-R	--	--	--	88	--
HG45-C	97	--	--	--	--
HG48-B	99	--	--	104	--
HG52-B	119	--	--	--	--
NUTECH					
EX 626	--	132	115	112	--
EX 676	--	111	105	81	--
GS 623	--	98	82	108	--
GS 663	--	119	104	122	--
GS 693	--	--	--	83	--
GS 725	--	--	--	101	--
PHILLIPS					
595	91	--	87	--	--
672	109	--	93	--	--
POLANSKY					
5526	92	--	--	--	--
5665W	92	--	--	--	--

ELD = Ellis Co., Hays THD = Thomas Co., Colby GRD = Greeley Co., Tribune FND = Finney Co., Garden City

Table 16 continued. WESTERN Kansas Grain Sorghum Hybrid Yield Summary (% of test avg.), 2016

BRAND/NAME	ELD	THD	GRD	FND	AVG.
SORGHUM PARTNERS					
SP 31A15	91	108	88	99	97
SP 34A19	87	94	96	99	94
SP 68M57	93	81	99	81	89
WKARCH					
KS 116A/ARCH 1102	67	--	--	--	--
KS 133A/ARCH 1000	98	--	--	--	--
KS 133A/ARCH 1102	95	--	--	--	--
KS 136A/ARCH 1000	105	--	--	--	--
KS 136A/ARCH 1102	91	--	--	--	--
KS 136A/ARCH 1105	119	--	--	--	--
TX /ARCH 11001	88	--	--	--	--
TX /ARCH 11028	76	--	--	--	--
TX /ARCH 11055	96	--	--	--	--
MATURITY CHECK					
EARLY	126	112	96	106	110
LATE	123	105	119	94	110
MED	121	111	120	76	107
AVERAGES (bu/a)	99	95	135	96	106
CV (%)	9	11	6	8	--
LSD (0.05)	13	15	8	12	--

ELD = Ellis Co., Hays THD = Thomas Co., Colby GRD = Greeley Co., Tribune FND = Finney Co., Garden City

SOUTH CENTRAL KANSAS IRRIGATED GRAIN SORGHUM TEST

Hutchinson, Reno County
Southwest Seed Research Farm
Planted: 6/17/2016
Harvested: 11/4/2016
150-0-0 lb/a N, P, K
Punkin silt loam
Previous crop: corn/triticale cover crop

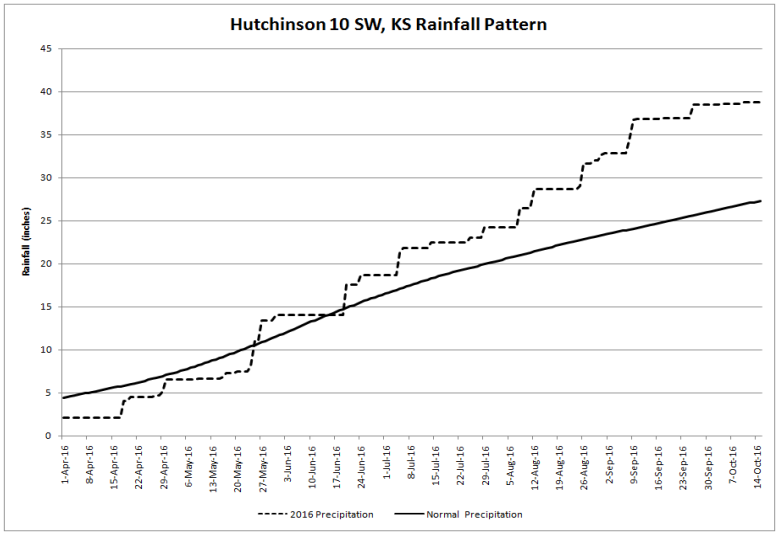

Table 17. Reno County Irrigated Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1203	102	--	162	--	132	98	--	108	--	14	58	--	--	--
ALTA	AG1301	93	--	--	--	--	90	--	--	--	13	58	--	--	--
ALTA	AG2103	**134**	--	111	--	123	129	--	75	--	15	59	--	--	--
ALTA	AG3101	74	--	--	--	--	71	--	--	--	16	56	--	--	--
ALTA	AG3201	107	--	--	--	--	102	--	--	--	14	59	--	--	--
ALTA	XG2117	94	--	--	--	--	90	--	--	--	16	58	--	--	--
ALTA	XG2118	115	--	--	--	--	111	--	--	--	14	58	--	--	--
BLUE RIVER HYBRIDS	70C5	109	--	--	--	--	104	--	--	--	13	58	--	--	--
BLUE RIVER HYBRIDS	76WT4	101	--	--	--	--	97	--	--	--	15	60	--	--	--
CHROMATIN	CHR0029	94	--	--	--	--	90	--	--	--	14	58	--	--	--
CHROMATIN	CHR2042	109	--	--	--	--	105	--	--	--	14	59	--	--	--
DEKALB	DKS38-16	90	--	--	--	--	86	--	--	--	15	58	--	--	--
DEKALB	DKS45-23	114	--	--	--	--	110	--	--	--	16	59	--	--	--
DEKALB	DKS48-07	83	--	--	--	--	79	--	--	--	14	59	--	--	--
DEKALB	DKS51-01	81	--	**186**	--	133	77	--	125	--	15	59	--	--	--
DEKALB	DKS53-53	**127**	--	**196**	--	162	122	--	131	--	14	59	--	--	--
DEKALB	EARLY	82	--	--	--	--	79	--	--	--	16	59	--	--	--
DEKALB	LATE	119	--	--	--	--	114	--	--	--	15	59	--	--	--
DEKALB	MED	**125**	--	--	--	--	120	--	--	--	15	61	--	--	--
DYNA-GRO	772B	111	--	135	--	123	107	--	91	--	15	60	--	--	--
DYNA-GRO	GX15371	84	--	--	--	--	81	--	--	--	16	58	--	--	--
DYNA-GRO	GX15373	**139**	--	--	--	--	134	--	--	--	15	59	--	--	--
DYNA-GRO	GX15484	120	--	--	--	--	115	--	--	--	13	58	--	--	--
DYNA-GRO	GX15561	100	--	--	--	--	96	--	--	--	16	59	--	--	--
DYNA-GRO	GX15672	112	--	--	--	--	107	--	--	--	14	59	--	--	--
DYNA-GRO	GX16173	**129**	--	--	--	--	124	--	--	--	17	58	--	--	--
DYNA-GRO	GX16612	120	--	--	--	--	116	--	--	--	15	61	--	--	--
DYNA-GRO	GX16667	77	--	--	--	--	74	--	--	--	13	58	--	--	--
DYNA-GRO	GX16675	105	--	--	--	--	101	--	--	--	17	59	--	--	--
DYNA-GRO	GX16957	**128**	--	--	--	--	123	--	--	--	15	60	--	--	--
DYNA-GRO	GX16968	121	--	--	--	--	116	--	--	--	15	59	--	--	--
DYNA-GRO	GX16970	115	--	--	--	--	110	--	--	--	14	55	--	--	--
DYNA-GRO	GX16988	87	--	--	--	--	84	--	--	--	13	57	--	--	--
DYNA-GRO	M58GR24	87	--	--	--	--	84	--	--	--	14	57	--	--	--
DYNA-GRO	M60GB31	105	--	--	--	--	101	--	--	--	15	58	--	--	--
GOLDEN ACRES	C3970R	113	--	--	--	--	108	--	--	--	15	59	--	--	--
GOLDEN ACRES	G3545	109	--	--	--	--	105	--	--	--	15	59	--	--	--
GOLDEN ACRES	G3960B	102	--	--	--	--	97	--	--	--	15	57	--	--	--
GOLDEN ACRES	G4980B	85	--	--	--	--	82	--	--	--	15	59	--	--	--
HEARTLAND GENETICS	HG52-B	108	--	**178**	--	143	103	--	119	--	15	59	--	--	--
MATURITY CHECK	EARLY	102	--	110	--	106	98	--	74	--	17	58	--	--	--
MATURITY CHECK	LATE	97	--	148	--	122	93	--	99	--	14	57	--	--	--
MATURITY CHECK	MED	88	--	139	--	114	85	--	93	--	14	58	--	--	--
PHILLIPS	672	101	--	--	--	--	97	--	--	--	15	57	--	--	--
PHILLIPS	775	93	--	--	--	--	89	--	--	--	15	58	--	--	--
SORGHUM PARTNERS	SP 73B12	107	--	--	--	--	103	--	--	--	16	59	--	--	--
SORGHUM PARTNERS	SP 78M30	100	--	--	--	--	96	--	--	--	15	59	--	--	--
	Average	104	--	149	--	127	100	--	100	--	15	58	--	--	--
	CV (%)	10	--	11	--	--	10	--	11	--	13	3	--	--	--
	LSD (0.05)	14	--	24	--	--	14	--	16	--	3	3	--	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

WESTERN KANSAS IRRIGATED GRAIN SORGHUM TESTS

Colby, Thomas County

K-State Northwest Research Center
Planted: 5/31/2016
Harvested: 10/20/2016
170-40-0 lb/a N, P, K
Keith silt loam
Previous crop: fallow

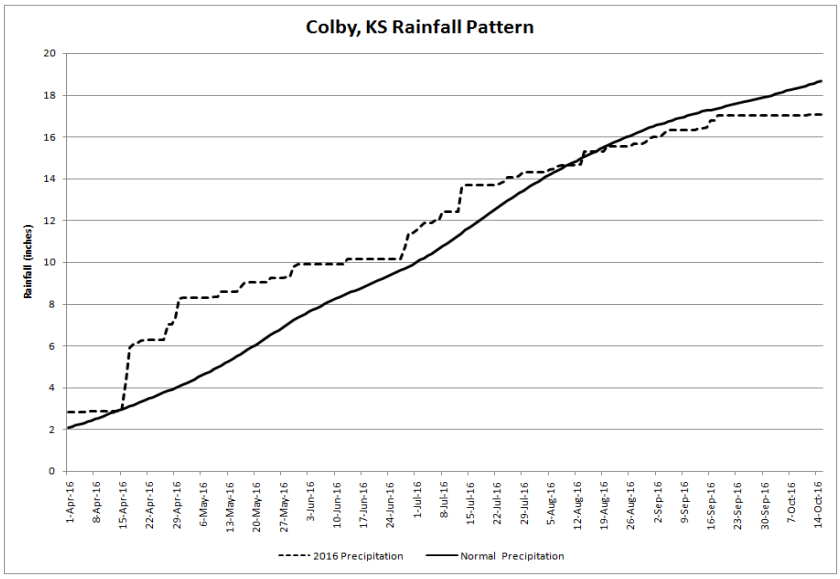

Table 18. Thomas County Irrigated Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1203	157	168	--	162	--	104	104	--	--	12	59	49	1	83
ALTA	AG1301	151	--	--	--	--	100	--	--	--	12	58	49	1	79
ALTA	AG2103	151	158	--	154	--	100	98	--	--	12	58	51	1	75
ALTA	AG3101	**178**	**196**	--	187	--	118	122	--	--	12	59	59	1	85
ALTA	AG3201	163	**185**	--	174	--	108	115	--	--	13	58	54	1	74
ALTA	XG2117	147	--	--	--	--	98	--	--	--	12	61	56	1	83
ALTA	XG2118	147	--	--	--	--	98	--	--	--	13	61	55	1	82
B-H GENETICS	BH 3808	148	141	169	145	153	99	88	92	--	11	58	47	1	73
B-H GENETICS	BH 4100	156	180	189	168	175	104	112	103	--	12	59	50	1	81
B-H GENETICS	BH 5224	**168**	161	**206**	164	178	111	100	112	--	12	57	52	1	68
BLUE RIVER HYBRIDS	57B6	134	--	--	--	--	89	--	--	--	12	56	49	1	83
BLUE RIVER HYBRIDS	59CT4	123	--	--	--	--	82	--	--	--	12	58	45	1	72
CHROMATIN	CHR0073	155	--	--	--	--	103	--	--	--	12	60	53	1	83
CHROMATIN	CHR0163	143	--	--	--	--	95	--	--	--	12	57	44	2	15
DEKALB	DKS38-16	159	--	--	--	--	106	--	--	--	12	60	52	1	78
DEKALB	DKS45-23	**176**	--	--	--	--	117	--	--	--	12	59	55	1	74
DEKALB	DKS48-07	**169**	--	--	--	--	112	--	--	--	12	60	52	1	79
DEKALB	DKS51-01	162	159	190	160	170	107	99	104	--	13	61	58	1	79
DEKALB	DKS53-53	**170**	**199**	**226**	185	198	113	124	123	--	12	57	53	1	77
DEKALB	EARLY	117	--	--	--	--	78	--	--	--	12	56	48	1	83
DEKALB	LATE	**184**	--	--	--	--	123	--	--	--	12	58	55	1	83
DEKALB	MED	161	--	--	--	--	107	--	--	--	11	57	57	1	82
DYNA-GRO	GX16612	116	--	--	--	--	77	--	--	--	11	56	44	1	79
DYNA-GRO	GX16667	**179**	--	--	--	--	119	--	--	--	12	59	58	1	75
DYNA-GRO	GX16957	125	--	--	--	--	83	--	--	--	11	55	44	1	77
DYNA-GRO	GX16988	142	--	--	--	--	94	--	--	--	11	56	50	1	84
DYNA-GRO	M58GR24	127	--	--	--	--	84	--	--	--	12	57	51	1	76
DYNA-GRO	M60GB31	155	--	--	--	--	103	--	--	--	12	58	49	1	79
GOLDEN ACRES	C3970R	158	--	--	--	--	105	--	--	--	12	58	53	1	79
GOLDEN ACRES	G3545	162	178	181	170	174	107	111	99	--	11	57	55	1	73
GOLDEN ACRES	G3960B	153	--	--	--	--	102	--	--	--	13	59	49	1	84
GOLDEN ACRES	G4980B	142	127	--	135	--	95	79	--	--	12	58	56	1	74
HEARTLAND GENETICS	HG52-B	163	171	170	167	168	109	106	93	--	11	56	54	1	79
MATURITY CHECK	EARLY	**172**	181	--	177	--	114	112	--	--	13	60	52	1	75
MATURITY CHECK	LATE	147	152	--	149	--	98	94	--	--	12	59	50	1	74
MATURITY CHECK	MED	158	179	--	168	--	105	112	--	--	12	61	52	1	81
NUTECH	EX 626	160	--	--	--	--	106		--	--	12	59	50	1	83
NUTECH	EX 676	157	--	--	--	--	104		--	--	13	60	50	1	78
NUTECH	GS 623	126	143	--	134	--	84	89	--	--	10	55	49	1	84
NUTECH	GS 663	152	--	--	--	--	101	--	--	--	12	59	51	1	77
SORGHUM PARTNERS	SP 31A15	122	--	--	--	--	81	--	--	--	12	57	48	1	81
SORGHUM PARTNERS	SP 34A19	145	--	--	--	--	96	--	--	--	11	56	54	1	78
SORGHUM PARTNERS	SP 68M57	144	--	--	--	--	96	--	--	--	13	59	51	1	78
WKARCH	KS 136A/ARCH 11001R	164	--	--	--	--	109	--	--	--	13	59	57	1	54
	Average	150	161	184	156	165	100	100	100	--	12	58	51	1	77
	CV (%)	7	7	9	--	--	7	7	9	--	7	3	5	22	6
	LSD (0.05)	16	15	24	--	--	10	9	13	--	1	2	4	0	6

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

WESTERN KANSAS IRRIGATED GRAIN SORGHUM TEST

Tribune, Greeley County
K-State Northwest Research Center
Planted: 5/27/2016
Harvested: 10/18/2016
170-40-0 lb/a N, P, K
Ulyssess silt loam
Previous crop: fallow

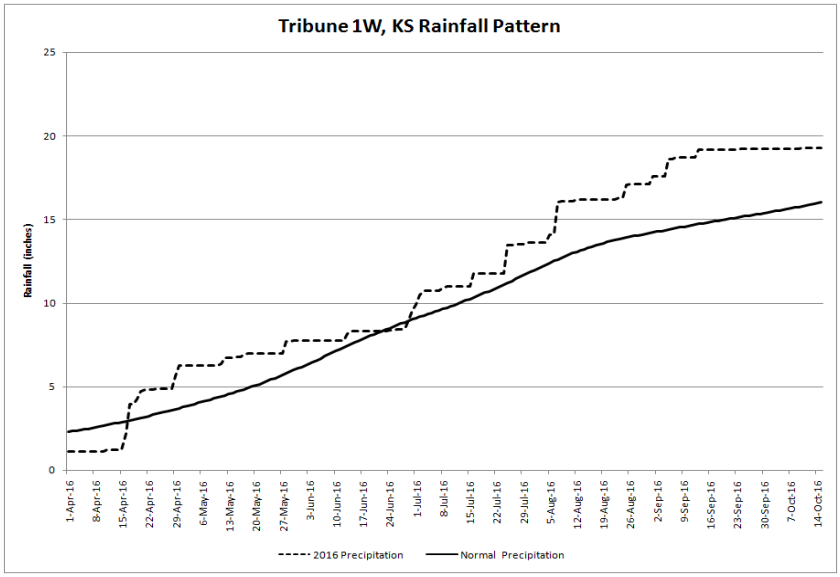

Table 19. Greeley County Irrigated Grain Sorghum Performance Test, 2014-2016

		ACRE YIELD, BUSHELS					YIELD AS % OF TEST AVERAGE			Days	Grain	Test	Plnt		Pop.
					2-yr.	3-yr.				to	moist.	wt.	ht.	Ldg	1000
BRAND	NAME	2016	2015	2014	AVG.	AVG.	2016	2015	2014	blm	%	lb/bu	in.	%	ppa
ALTA	AG1203	167	199	--	183	--	110	101	--	62	12	61	46	--	--
ALTA	AG1301	147	--	--	--	--	97	--	--	64	12	60	45	--	--
ALTA	AG2103	144	198	--	171	--	95	100	--	62	12	60	45	--	--
ALTA	AG3101	175	197	--	186	--	116	99	--	68	13	61	54	--	--
ALTA	AG3201	158	196	--	177	--	104	99	--	66	12	60	48	--	--
ALTA	XG2117	136	--	--	--	--	90	--	--	66	12	60	49	--	--
ALTA	XG2118	152	--	--	--	--	100	--	--	63	13	61	52	--	--
B-H GENETICS	BH 3808	139	--	--	--	--	92	--	--	63	12	59	44	--	--
B-H GENETICS	BH 4100	166	196	--	181	--	109	99	--	63	12	61	48	--	--
B-H GENETICS	XPS 1601W	146	--	--	--	--	96	--	--	65	13	60	44	--	--
B-H GENETICS	XPS 1615W	156	--	--	--	--	103	--	--	61	12	61	45	--	--
BLUE RIVER HYBRIDS	57B6	126	--	--	--	--	83	--	--	60	12	59	44	--	--
BLUE RIVER HYBRIDS	59CT4	104	--	--	--	--	68	--	--	58	12	59	41	--	--
CHROMATIN	CHR0073	162	--	--	--	--	106	--	--	67	12	60	49	--	--
DEKALB	DKS38-16	160	--	--	--	--	105	--	--	60	13	62	49	--	--
DEKALB	DKS45-23	174	--	--	--	--	114	--	--	65	12	60	51	--	--
DEKALB	DKS48-07	165	--	--	--	--	109	--	--	65	13	61	47	--	--
DEKALB	DKS51-01	171	198	167	185	179	113	100	103	65	13	61	55	--	--
DEKALB	DKS53-53	**190**	203	**209**	196	201	125	103	128	68	12	60	51	--	--
DEKALB	EARLY	123	--	--	--	--	81	--	--	54	12	58	42	--	--
DEKALB	LATE	**190**	--	--	--	--	125	--	--	67	12	60	52	--	--
DEKALB	MED	155	--	--	--	--	102	--	--	62	12	61	51	--	--
DYNA-GRO	GX16667	164	--	--	--	--	108	--	--	67	12	59	57	--	--
DYNA-GRO	GX16957	112	--	--	--	--	74	--	--	56	12	59	36	--	--
DYNA-GRO	GX16968	156	--	--	--	--	103	--	--	67	12	59	47	--	--
DYNA-GRO	GX16988	142	--	--	--	--	94	--	--	60	12	59	48	--	--
DYNA-GRO	M60GB31	160	--	--	--	--	105	--	--	61	12	61	45	--	--
GOLDEN ACRES	C3970R	154	--	--	--	--	102	--	--	66	12	59	47	--	--
GOLDEN ACRES	G3545	153	**212**	--	182	--	101	107	--	66	12	60	48	--	--
GOLDEN ACRES	G3960B	173	--	--	--	--	114	--	--	62	12	60	46	--	--
GOLDEN ACRES	G4980B	132	197	--	164	--	87	100	--	62	13	60	53	--	--
HEARTLAND GENETICS	HG52-B	160	--	--	--	--	105	--	--	68	13	59	53	--	--
MATURITY CHECK	EARLY	151	**211**	--	181	--	99	106	--	57	12	60	48	--	--
MATURITY CHECK	LATE	**183**	199	--	191	--	120	100	--	67	13	61	48	--	--
MATURITY CHECK	MED	166	**214**	--	190	--	109	108	--	61	12	61	49	--	--
NUTECH	EX 626	164	--	--	--	--	108	--	--	64	12	61	48	--	--
NUTECH	EX 676	153	--	--	--	--	101	--	--	64	13	61	46	--	--
NUTECH	GS 623	133	198	--	165	--	87	100	--	55	12	60	44	--	--
NUTECH	GS 663	156	--	--	--	--	103	--	--	59	12	60	45	--	--
SORGHUM PARTNERS	SP 31A15	129	--	--	--	--	85	--	--	59	12	57	43	--	--
SORGHUM PARTNERS	SP 34A19	141	--	--	--	--	93	--	--	61	12	58	45	--	--
SORGHUM PARTNERS	SP 68M57	146	--	--	--	--	96	--	--	61	13	60	47	--	--
	Average	152	198	163	175	171	100	100	100	62	12	60	47	--	--
	CV (%)	5	8	9	--	--	5	8	9	2	4	1	5	--	--
	LSD (0.05)	11	23	20	--	--	8	12	12	2	1	1	3	--	--

*Yields in bold are not statistically different than the highest-yielding hybrid.
**Unless two varieties differ by more than the LSD, little confidence can be placed in one being superior to the other.

Table 20. Kansas IRRIGATED Grain Sorghum Hybrid Yield Summary (% of test avg.), 2016

BRAND/NAME	RNI	THI	GRI	FNI	AVG.
ALTA					
AG1203	98	104	110	--	104
AG1301	90	100	97	--	96
AG2103	129	100	95	--	108
AG3101	71	118	116	--	102
AG3201	102	108	104	--	105
XG2117	90	98	90	--	93
XG2118	111	98	100	--	103
B-H GENETICS					
BH 3808	--	99	92	--	--
BH 4100	--	104	109	--	--
BH 5224	--	111	--	--	--
XPS 1601W	--	--	96	--	--
XPS 1615W	--	--	103	--	--
BLUE RIVER HYBRIDS					
57B6	--	89	83	--	--
59CT4	--	82	68	--	--
70C5	104	--	--	--	--
76WT4	97	--	--	--	--
CHROMATIN					
CHR0029	90	--	--	--	--
CHR0039	--	55	60	--	--
CHR0073	--	103	106	--	--
CHR0163	--	95	--	--	--
CHR2042	105	--	--	--	--
DEKALB					
DKS38-16	86	106	105	--	99
DKS45-23	110	117	114	--	114
DKS48-07	79	112	109	--	100
DKS51-01	77	107	113	--	99
DKS53-53	122	113	125	--	120
EARLY	79	78	81	--	79
LATE	114	123	125	--	121
MED	120	107	102	--	110
DYNA-GRO					
772B	107	--	--	--	--
GX15371	81	--	--	--	--
GX15373	134	--	--	--	--
GX15484	115	--	--	--	--
GX15561	96	--	--	--	--
GX15672	107	--	--	--	--
GX16173	124	--	--	--	--
GX16612	116	77	--	--	--
GX16667	74	119	108	--	100
GX16675	101	--	--	--	--
GX16957	123	83	74	--	93
GX16968	116	--	103	--	--
GX16970	110	--	--	--	--
GX16988	84	94	94	--	91
M58GR24	84	84	--	--	--
M60GB31	101	103	105	--	103
GOLDEN ACRES					
C3970R	108	105	102	--	105
G3545	105	107	101	--	104
G3960B	97	102	114	--	104
G4980B	82	95	87	--	88
HEARTLAND GENETICS					
HG52-B	103	109	105	--	106

RNI=Reno Co., Hutchinson THI=Thomas Co., Colby GRI=Greeley Co., Tribune FNI=Finney Co., Garden City; abandoned

Table 20 continued. Kansas IRRIGATED Grain Sorghum Hybrid Yield Summary (% of test avg.), 2016

BRAND/NAME	RNI	THI	GRI	FNI	AVG.
NUTECH					
EX 626	--	106	108	--	--
EX 676	--	104	101	--	--
GS 623	--	84	87	--	--
GS 663	--	101	103	--	--
PHILLIPS					
672	97	--	--	--	--
775	89	--	--	--	--
SORGHUM PARTNERS					
SP 31A15	--	81	85	--	--
SP 34A19	--	96	93	--	--
SP 68M57	--	96	96	--	--
SP 73B12	103	--	--	--	--
SP 78M30	96	--	--	--	--
WKARCH					
KS 136A/ARCH 10001R	--	109	--	--	--
MATURITY CHECK					
EARLY	98	114	99	--	104
LATE	93	98	120	--	104
MED	85	105	109	--	100
AVERAGES (bu/a)	104	150	152	--	135
CV (%)	10	7	5	--	--
LSD (0.05)	14	10	8	--	--

RNI=Reno Co., Hutchinson THI=Thomas Co., Colby GRI=Greeley Co., Tribune FNI=Finney Co., Garden City; abandoned

Table 21. Entries in the 2016 Kansas Grain Sorghum Performance Tests

BRAND	GC	EC	PC	Mat.	Days	GB
ALTA						
AG1201	B	-	P	E	-	-
AG1203	B	-	P	ME	-	-
AG2105	R	-	P	M	-	-
AG2115	R	-	P	M	-	-
AG3201	B	-	P	ML	-	-
AG1301	C	-	R	ME	63	-
AG2103	R	-	P	M	65	-
AG3101	R	-	P	L	68	-
XG2117	R	-	-	ML	68	-
XG2118	R	-	-	ML	68	-
B-H GENETICS						
BH 3400	B	-	-	VE	-	-
BH 3808	R	-	-	ME	-	C
BH 3822	B	-	-	M	-	C,E
BH 4100	B	-	-	M	-	-
BH 4200C	C	-	-	ME	-	C
BH 5224	B	-	-	M	-	C,D,E
BH 5620	B	-	-	ML	-	-
XPS 1601W	C	-	-	ME	-	-
XPS 1615W	W	-	-	ME	-	-
XPS1503	B	-	-	ML	-	-
BLUE RIVER HYBRIDS						
57B6	-	-	-	-	-	-
59CT4	-	-	-	-	-	-
63C5	-	-	-	-	-	-
63WT6	-	-	-	-	-	-
64YT5	-	-	-	-	-	-
70C5	-	-	-	-	-	-
76WT4	-	-	-	-	-	-
BROWNING						
CHALLENGER BMX	B	HY	P	M	67	N
CHALLENGER BMX II	B	HY	P	ML	73	C,E
CHROMATIN						
CHR0039	B	-	P	E	52	-
CHR0163	B	-	P	ME	60	-
CHR0073	B	-	P	M	66	-
CHR0029	R	-	P	ML	72	-
CHR2042	B	-	P	ML	72	-

BRAND	GC	EC	PC	Mat.	Days	GB
DEKALB						
EARLY	-	-	-	-	-	-
LATE	-	-	-	-	-	-
MED	-	-	-	-	-	-
DKS28-05	B	HY	P	E	58	-
DKS38-16	B	HY	P	E	62	-
DKS37-07	B	HY	P	E	67	CEI
DKS45-23	B	HY	P	M	68	-
DKS48-07	B	HY	P	M	68	-
DKS51-01	B	HY	P	M	70	E,I
DKS53-53	B	HY	P	L	72	I
DYNA-GRO						
GX15371	-	-	-	-	-	-
GX15373	-	-	-	-	-	-
GX15484	-	-	-	-	-	-
GX15561	-	-	-	-	-	-
GX15672	-	-	-	-	-	-
GX16173	-	-	-	-	-	-
GX16612	-	-	-	-	-	-
GX16667	-	-	-	-	-	-
GX16675	-	-	-	-	-	-
GX16957	-	-	-	-	-	-
GX16968	-	-	-	-	-	-
GX16970	-	-	-	-	-	-
GX16988	-	-	-	-	-	-
M58GR24	-	-	-	-	-	-
M60GB31	-	-	-	-	-	-
772B	B	HY	T	M	68	CE
GAYLAND WARD SEED						
EXP 8016	-	-	-	-	-	-
EXP 8017	-	-	-	-	-	-
EXP 9050	-	-	-	-	-	-
EXP 9058	-	-	-	-	-	-
EXP 9066	-	-	-	-	-	-
EXP 9099	-	-	-	-	-	-
EXP 9100	-	-	-	-	-	-
EXP 9123	-	-	-	-	-	-
EXP 9125	-	-	-	-	-	-
EXP 9126	-	-	-	-	-	-
EXP 9127	-	-	-	-	-	-
EXP 9132	-	-	-	-	-	-
EXP 9135	-	-	-	-	-	-
GW 9417	R	HY	P	M	68	CE

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
G-bug = resistance to specific greenbug biotypes: C, E, I, K, etc.

Table 21 continued. Entries in the 2016 Kansas Grain Sorghum Performance Tests

BRAND	GC	EC	PC	Mat.	Days	GB
GOLDEN ACRES						
X-2699	C	HY	P	ME	54	C,E
C3970R	R	HY	P	M	55	C,E
G3960B	B	HY	P	M	58	C,E
G4980B	B	HY	P	ML	68	C,E
G3545	B	HY	P	M	70	C,E
HEARTLAND GENETICS						
HG 23-R	R	HY	P	E	57	C,E
HG 44-R	R	HY	P	M	64	C,E
HG45-C	C	HY	P	M	66	C,E,I
HG48-B	B	HY	P	M	67	C,E
HG52-B	B	HY	P	ML	73	C,E
NUTECH						
EX 626	R	W	P	ME	62	C,E
GS 623	R	W	P	M	62	C,E
GS 663	B	W	P	M	66	C,E
EX 676	B	W	P	M	67	C,E
GS 693	R	W	P	M	69	C,E
GS 725	R	W	P	L	71	C,E
PHILLIPS						
595	B	W	-	E	60	C
672	B	W	-	ME	65	C,D,E
775	B	W	-	M	68	C,E
POLANSKY						
5526	R	-	P	E	-	C,E
5669	B	-	P	M	-	C,E
5685	R	-	P	L	-	C,E
5651Y	Y	-	-	M	65	-
5665W	C	-	P	M	65	C
5761	R	HY	P	M	65	C,E
5718	R	HY	P	ML	70	C,E
SORGHUM PARTNERS						
SP 31A15	B	-	P	E	58	-
SP 34A19	B	-	P	ME	60	-
SP 68M57	B	-	P	M	68	-
SP 73B12	B	-	P	ML	71	-
SP 78M30	R	-	P	ML	72	-
WESTERN KANSAS AGRICULTURAL RESEARCH CENTER HAYS						
KS 116A/ARCH 11028	-	-	-	-	-	-
KS 133A/ARCH 10001R	-	-	-	-	-	-
KS 133A/ARCH 11028R	-	-	-	-	-	-
KS 136A/ARCH 10001R	-	-	-	-	-	-
KS 136A/ARCH 11028R	-	-	-	-	-	-
KS 136A/ARCH 11055R	-	-	-	-	-	-
TX /ARCH 11001	-	-	-	-	-	-
TX /ARCH 11028	-	-	-	-	-	-
TX /ARCH 11055	-	-	-	-	-	-

BRAND	GC	EC	PC	Mat.	Days	GB
MATURITY CHECK						
EARLY	-	-	-	-	-	-
LATE	-	-	-	-	-	-
MED	-	-	-	-	-	-

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
G-bug = resistance to specific greenbug biotypes: C, E, I, K, etc.

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SRP1131 January 2017

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