

2015 Texas Panhandle Sorghum Silage Trial
Jourdan Bell, Ted McCollum, Dennis Pietsch, Ronnie Schnell,
Preston Sirmon, and Daniel Tyrer

Introduction

The 2015 Texas A&M AgriLife Research and Extension Forage Sorghum Silage Trial at Bushland consisted of 100 entries of which 49 were non-BMR (brown midrib) and 51 were BMR forage sorghum and sorghum-sudangrass hybrids. Of the 100 entries, there were 14 photoperiod-sensitive hybrids of which ten were non-BMR and four were BMR hybrids, and there were 5 brachytic entries. All entries were evaluated for yield and nutritional components. Select entries were evaluated for grain yield upon seed company request. Due to sugarcane aphid pressure, all entries were rated for sugarcane aphid damage.

Materials and Methods

The trial was funded by commercial company entry fees. Evaluated hybrids were entered at the discretion of the seed companies. Entries were planted in a randomized complete block design. Photoperiod sensitive (PS) entries were blocked separately in each rep. Irrigation was applied with a center-pivot sprinkler with mid-elevation nozzles on 60-inch spacings and scheduled by the cooperator based on crop water demand.

Cultural Practices:

Trial Location: 1 mile northeast of Bushland (35.203616, -102.030475)

Cooperator: Michael Menke

Previous Crop: Fallow

Soil Type: Pullman clay loam, pH 7.5

Planting Date: June 24, 2015

Planting Rate: 100,000 seeds/acre

Herbicides: Atrazine (1.5 lbs a.i./ac) + glyphosate (16 oz/ac) prior to planting

Fertilizer: Manure 2014 followed by 100 lbs N/ac in 2015

In-season Irrigation: 5.5 inches

In-season precipitation: 17.2 in.

Plot Size: Four, 30 inch rows by 25 ft.

Replications: 3

Study Design: Randomized Complete Block

Nutrient Analysis Included:

Forage Analyses defined:

- CP: Crude Protein
- TDN: Total Digestible Nutrients (by Weiss equation) an index of energy concentration.
- NDF: Neutral Detergent Fiber; cell wall fraction of the forage
- ADF: Acid Detergent Fiber; a fraction of the cell wall includes cellulose and lignin, which is inversely related to energy availability
- IVTD: In Vitro True Digestibility; estimate of forage disappearance in the digestive tract
- NDFD: NDF digestibility; estimated fiber digestibility
- RFQ: Relative Forage Quality - an index for comparing forages, not just alfalfa. RFQ is based on the same scoring system as RFV with an average score of 100; higher scores indicate better feeding value.
- Milk/ton: An index based on several variables that influence intake and nutritive value. These are applied to a standard dairy cow to project milk produced per ton of forage.

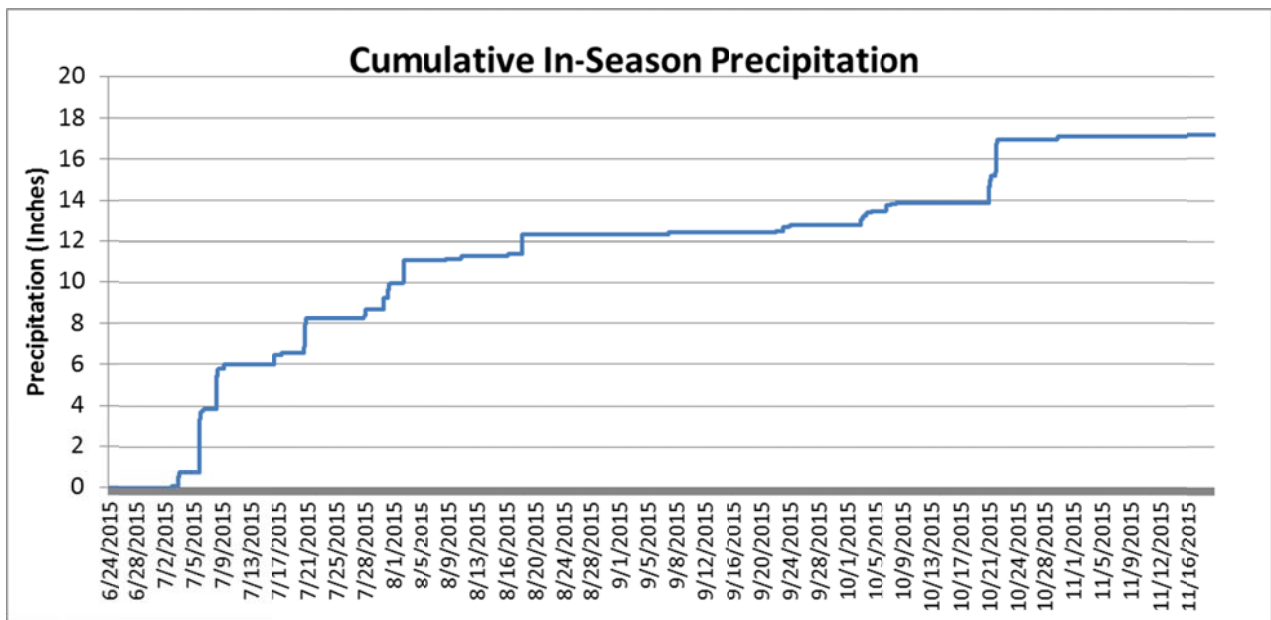


Figure 1. Cumulative in-season precipitation.

Harvest of the different hybrids did not occur on a single date. Grain producing hybrids were harvested for forage yield when grain reached soft dough. Hybrids that had not reached soft-dough were all harvested on the last sampling date (November 20, 2015). This included the photoperiod sensitive hybrids and some late maturing hybrids. Forage yield was determined by harvesting all plants from 25 ft² area (1 row by 10 ft.) within each plot. If possible, plants were harvested from a non-lodged portion of the plot to preserve forage quality. Lodging and plant height were recorded at harvest. A portion of the chopped forage was dried at 140°F to

determine harvest moisture. The remaining portion of the chopped forage from each plot were then composited by entry and submitted to Dairy One Lab, Ithaca, NY for forage analyses. Forage constituents are reported on a dry matter (DM) basis.

Statistical analyses were completed using SAS 9.4. Adjusted least significant differences for multiple comparisons were determined using Tukey's HSD. Effects and comparisons were determined significant at the 0.05 probability level.

Average trial yield was 22.8 tons/acre (Standard Dev 2.53; CV 11%) across all hybrids with the average yields of photosensitive, non-BMR hybrids being greatest (Table 1). Yields ranged from 36.7 to 15.5 tons/acre for the individual hybrids (Table 2); however, when evaluating the performance of the top yielding hybrids there were no statistical differences between the top 20 hybrids with yields ranging from 29.1 to 36.6 tons/ac at the 0.05 probability level (Table 5). Table 5 lists the top 25 yielding hybrids. High in-season precipitation and optimal temperatures in addition to supplemental precipitation contributed to optimal yields. Although the average yield differences between sorghum types are numerically different, evaluation of the individual hybrids reveal an overlap between different hybrids and types as reflected in the non-statistical differences. If possible, producers should evaluate hybrids based on several years of production data from multiple trial locations to capture differences in the growing season conditions.

The risk for lodging is an important consideration in forage sorghum selection. While genetics does affect a hybrids lodging potential, lodging is strongly influenced by crop management including population, fertility, crop water (soil moisture + precipitation + irrigation), and harvest timing. Increased populations can potentially maximize production under optimum conditions, but at higher populations, the stalk diameter decreases making the plant more susceptible to lodging. To evaluate the influence of population on lodging and production, three hybrids (Silo 700D BMR, NK300 and AF7202) were planted at a population of 75,000 seeds/acre for comparison to the trial population of 100,000 seeds/acre. There was a trend for the 100,000 seed/ac population to yield greater for Silo 700D BMR and AF7202, but there were no significant differences in yields between populations for the evaluated hybrids (Table 10). However, lodging was lower at 75,000 seeds/acre for the three evaluated hybrids. Population did not affect the days to half-bloom (HB). In addition to agronomic management, it is often perceived that BMR forages are more susceptible to lodging. In this trial, lodging appeared to be a function of individual hybrid, photoperiod response, and potentially population not BMR forage type. Currently, the industry recommended planting population is 75 – 80,000 seeds/acre. Because there were no significant differences in forage yield between the two evaluated populations in 2015, the 2016 trial will be planted at 80,000 to minimize lodging.

Days to HB were recorded for all hybrids based on weekly observations. The average days to HB were 77 with the minimum number of days being 63; several PS hybrids did not reach HB

during the evaluation period. Grain yield was obtained in November once requested hybrids had reached physiological maturity. Heads were harvested from a 25 sq. foot area (1 row x 10 feet), and processed using a belt thresher. Grain yields will be available in an addendum to this report.

Five brachytic dwarf forages were part of the 2015 entries (AF7102, AF7202, AF7401, SP 3903BD, and Sweet Bee BMR) (Table 7). Brachytic dwarf hybrids are marketed as shorter stature hybrids that yield relative to taller hybrids due to a shortened internode. It is also advertised that they have greater standability due to their shorter stature. The brachytics were considerably shorter than the trial average (79.1 inches vs. 98.1 inches). The average lodging for the brachytic hybrids was lower than the trial average (20% for brachytics vs 29% for trial average), but the lodging varied greatly by brachytic hybrid (0 to 62%). While the average brachytic yield (20.7 tons/ac; Stdev=3.6 tons/ac) was slightly less than the trial average (22.8 tons/ac; Stdev=4.2 tons/ac), this was not statistically different. Similarly, there was a trend for nutritional characteristics to be greater for the brachytic forages (Table 8).

Forage characteristics contributing to nutritive and feeding values are shown in Tables 1-6. From the broad averages for different forage types shown in Table 1, the photoperiod sensitive types appeared to contain greater ADF and NDF, while the BMR types on average contained lower digestible fractions. The BMR trait reduces lignin concentration in forage and, on average; lignin concentration was lower in BMRs than non-BMRs. BMR-PS forages had only slightly lower lignin values than the non-BMR PS forages (Table 1). Lignin reduces fiber digestibility and energy density of forage. Note that fiber digestibility (NDFD48; Table 1) reflected the differences in lignin concentration and was also reflected in the milk/ton indices. Average starch content was lower for the PS hybrids because they do not produce grain.

The discussion above addresses **broad averages** for types of forage sorghums, grain sorghums evaluated as silage, and sorghum/sudangrass hybrids evaluated in the 2015 test. We recommended individual hybrids not be selected or disregarded based on the sorghum type nor based on the relative comparison among types. There is overlap among hybrids in these type categories. Evaluate the data based on the individual hybrid, not the type category.

Sugarcane aphids were found in the plots on August 21, 2015. The entire field was sprayed aerially with Transform on August 26 at 1.5 oz/ac at 3.0 GPA. Sugarcane aphid ratings were obtained on August 30, September 10 and October 28 (Table 9). Ratings ranged from 0 to 80% (0 to 8) infested, damaged leaf area based on a rating scale developed by Texas A&M AgriLife Entomologists Pat Porter, Ed Bynum and Blayne Reed.

Texas A&M AgriLife Sugarcane Aphid Rating Scale:

- 0: no aphids or honey dew found
- 1: 10% of leaf area infested or damaged or colonies establishing on lower leaves or some honey dew visible on 2 or less leaves
- 2: 11-20% of leaf area infested or damaged
- 3: 21-30% of leaf area infested, damaged or dead
- 4: 31-40% of leaf area infested, damaged or dead
- 5: 41-50% of leaf area infested, damaged or dead
- 6: 51-60% of leaf area infested, damaged or dead
- 7: 61-70% of leaf area infested, damaged or dead
- 8: 71-80% of leaf area infested, damaged or dead
- 9: 81-90% of leaf area infested, damaged or dead
- 10: 91% of leaf area damaged to dead

While initial ratings on August 30 were made four days following the application of Transform, ratings are reflective of the visual presence of the initial leaf damage and honey-dew even though sugarcane aphid counts were affected. These ratings show considerable range of differences (0-8) in damage among all of the hybrids and within a type of hybrid. Ratings obtained two weeks following the insecticide application represented significantly less crop injury; ratings ranged from 0 to 30% (0 to 3) infested, damaged leaf area on September 10. Final ratings were 0 to 10% (0 to 1) infested, damaged leaf area on October 28. It is interesting to note that the hybrids did recover from the initial damage, as evident in the significantly reduced damage ratings from the September 5 to the October 28 sample dates. This recovery is likely due to additional plant growth following the insecticide application. Following the application of Transform, beneficial insect populations (including lady beetles) were very high. It is likely that both the Transform application and the beneficial insects mitigated further damage from the sugarcane aphids. It is not believed that 2015 sugarcane aphid infestation and damage was yield limiting due to the timely insecticide application.

Acknowledgements: We greatly appreciate Mr. Michael Menke for his cooperation, and Dr. Ed Bynum for his consultation on sugarcane aphids. Furthermore, we greatly appreciate the assistance Katrina Horn and Jonathan Moreno with seed preparation and planting, and Aislynn Walton, Jonathan Thobe and Travis Brown for field notes, harvest assistance and sample processing.

Table 1. 2015 summary of key characteristics by sorghum type. *The number in parentheses represents the number of hybrids that make up each sorghum type. BMR= Brown midrib

Sorghum Type*	Avg Yield (tons/ac, 65% Moist.)	% Lodging	% CP	% ADF	% NDF	% Lignin	% NDFD48	% Starch	Relative Feed Quality (RFQ)	Milk lbs/ton
NonBMR (49)	23.0	29.3	7.6	39.0	54.9	6.0	52.7	12.5	101	2883
BMR (51)	22.7	30.0	8.1	35.8	51.1	4.5	58.7	13.2	126	3124
Test Average	22.8	29.6	7.8	37.4	53.0	5.3	55.7	12.9	114	3005
Sorghum Type by Photoperiod Response*										
NonBMR (36)	21.9	25.0	8.0	38.6	54.1	6.0	53.9	15.1	106	2922
NonBMR PS (9)	27.7	48.5	5.5	40.7	58.4	6.3	47.6	1.2	81	2708
BMR (39)	22.9	26.9	8.1	35.3	50.5	4.4	59.3	14.0	130	3166
BMR PS (6)	19.9	58.3	7.5	42.2	58.3	6.1	51.3	4.9	86	2644

Table 2. 2015 comparison of agronomic characteristics, yield and lodging. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum. Means followed by the same letter do not significantly differ using LSD (0.05).

Hybrid Information*						Mean Days to Half-Bloom, Harvest Date, Lodging, Moisture and Yield					
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	Male Sterile	Days to HB	Harvest Date	% Lodging at Harvest	Height at Harvest (in)	% Moisture at Harvest	tons/ac (65% moist.)
AF7101	Alta Seeds	FS	E	Y	N	70	9/18/2015	32	100	0.72	15.45 n
AF7102	Alta Seeds	FS	E	Y	N	66	9/18/2015	0	83	0.77	19.64 h-n
AF7201	Alta Seeds	FS	ME	Y	N	67	9/18/2015	45	92	0.73	17.76 j-n
AF7202	Alta Seeds	FS	ME	Y	N	64	9/18/2015	23	78	0.77	18.90 j-n
AF7301	Alta Seeds	FS	M	Y	Y	72	10/6/2015	38	87	0.72	25.12 b-n
AF7401	Alta Seeds	FS	L	Y	N	83	10/15/2015	0	84	0.74	26.03 a-l
AF8301	Alta Seeds	FS	M	N	N	75	10/13/2015	0	84	0.76	21.23 e-n
AS6401	Alta Seeds	SS	ML	Y	N	72	9/22/2015	0	107	0.73	24.48 c-n
AS6402	Alta Seeds	SS	L	Y	N	70	10/3/2015	0	86	0.68	22.65 d-n
Blackhawk 12	Blue River Hybrids	SS	M	Y	Y	68	9/27/2015	0	104	0.71	22.13 d-n
Seahawk 6	Blue River Hybrids	SS	ME	Y	Y	63	9/17/2015	0	125	0.70	20.50 f-n
Heron 6	Blue River Hybrids	SS	M	Y	Y	67	9/25/2015	0	86	0.72	19.43 h-n
Warbler	Blue River Hybrids	FS	ML	Y	Y	87	10/26/2015	23	85	0.68	22.17 d-n
Cadan 99B-WMR	Browning Seed Inc	SS	M	N	N	65	9/21/2015	0	126	0.69	19.90 g-n
Tridan	Browning Seed Inc	SS	M	N	N	65	9/20/2015	0	133	0.68	16.74 klmn
Sweet Sioux-WMR	Browning Seed Inc	SS	M	N	N	66	9/22/2015	0	128	0.66	21.99 d-n
Sweet Sioux-BMR	Browning Seed Inc	SS	M	Y	N	64	9/22/2015	17	101	0.72	22.27 d-n
Bundle King	Browning Seed Inc	FS	ME	N	Y	67	9/18/2015	38	98	0.75	17.89 j-n
Silage Master	Browning Seed Inc	FS	ML	N	N	67	9/21/2015	78	99	0.73	22.59 d-n
Sioux Dan	Browning Seed Inc	SU	M	N	N	67	9/22/2015	0	113	0.65	27.39 a-j
Avenger	Browning Seed Inc	FS	ML	Y	N	89	10/25/2015	27	79	0.72	20.69 f-n
B-52	Browning Seed Inc	SS	PS	N	N	122	11/20/2015	42	122	0.70	23.80 d-n
747	Browning Seed Inc	SS	M	N	N	122	11/20/2015	0	113	0.70	23.05 c-n
EJ 7281	Ceres, Inc	FS	L	N	N	89	11/9/2015	82	111	0.71	19.39 i-n
EJ 7282	Ceres, Inc	FS	L	N	N	87	10/14/2015	35	126	0.73	34.73 ab
DS 7853	Ceres, Inc	FS	PS	N	N	>146	11/20/2015	48	119	0.70	36.67 a
CB 7290	Ceres, Inc	SS	PS	N	N	>146	11/20/2015	45	117	0.70	28.92 a-i
F2P134	Ceres, Inc	SS	PS	N	N	139	11/20/2015	30	121	0.70	34.08 abc

Table 2 continued. 2015 comparison of agronomic characteristics, yield and lodging. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum. Means followed by the same letter do not significantly differ using LSD (0.05).

Hybrid Information*						Mean Days to Half-Bloom, Harvest Date, Lodging, Moisture and Yield					
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	Male Sterile	Days to HB	Harvest Date	% Lodging at Harvest	Height at Harvest (in)	% Moisture at Harvest	tons/ac (65% moist.)
DKS51-01	Monsanto	GS	ML	N	N	65	9/18/2015	0	59	0.69	21.04 f-n
Cobalto	Monsanto	GS	ML	N	N	67	9/17/2015	0	65	0.78	18.56 j-n
DKS-44	Monsanto	GS	ML	N	N	65	9/17/2015	0	64	0.75	19.17 i-n
DKS-46	Monsanto	GS	ML	N	N	67	9/23/2015	0	77	0.79	19.18 i-n
Litio	Monsanto	GS	L	N	N	65	9/20/2015	0	73	0.75	18.37 j-n
Ambar	Monsanto	GS	ML	N	N	67	9/20/2015	0	71	0.69	23.23 d-n
DKS53-67	Monsanto	GS	ML	N	N	63	9/18/2015	0	55	0.77	16.48 lmn
ST6	Monsanto	SS	M	N	Y	67	9/20/2015	0	109	0.66	25.21 b-n
BMR45S	Monsanto	SS	M	Y	N	66	9/20/2015	0	110	0.70	21.67 e-n
Sweetleaf II	Monsanto	SS	M	N	N	67	9/18/2015	0	116	0.63	19.87 g-n
Nutricane II	Monsanto	FS	M	N	Y	67	9/25/2015	0	101	0.74	26.24 a-l
Nutricane II	Monsanto	FS	ML	N	N	82	10/17/2015	40	92	0.72	26.18 a-l
FS 300	NuTech Seed, LLC	FS	ML	N	N	75	10/13/2015	18	90	0.76	21.98 d-n
FSB 310	NuTech Seed, LLC	FS	L	Y	N	82	10/15/2015	0	68	0.71	24.16 d-n
FSX 23	NuTech Seed, LLC	FS	ML	Y	N	70	9/25/2015	0	90	0.73	24.37 c-n
Silo 700D	Richardson Seeds, Ltd	FS	ML	N	N	80	10/15/2015	0	96	0.72	25.55 b-m
Silo 700D BMR	Richardson Seeds, Ltd	FS	M	Y	N	88	10/16/2015	33	96	0.67	30.21 a-f
9500W	Richardson Seeds, Ltd	FS	M	N	N	67	9/21/2015	0	80	0.77	21.08 f-n
Sweeter 'N Honey BMR	Richardson Seeds, Ltd	SS	E	Y	N	67	9/23/2015	0	95	0.72	26.65 a-k
Bundle King BMR	Richardson Seeds, Ltd	FS	L	Y	Y	85	10/17/2015	74	104	0.70	27.39 a-l
Dairy Master BMR	Richardson Seeds, Ltd	FS	M	Y	N	68	9/22/2015	38	106	0.71	25.30 b-n
X88400	Richardson Seeds, Ltd	FS	ML	Y	N	70	9/20/2015	0	106	0.75	22.27 d-n
Sweeter 'N Honey II BMR	Richardson Seeds, Ltd	SS	L	Y	N	91	11/3/2015	57	112	0.73	17.68 j-n
X115400	Richardson Seeds, Ltd	FS	L	Y	N	85	10/29/2015	88	97	0.72	28.16 a-j
X105414	Richardson Seeds, Ltd	FS	M	Y	N	87	10/19/2015	35	102	0.67	31.82 abcd
X82414	Richardson Seeds, Ltd	SS	L	Y	N	89	10/16/2015	88	103	0.71	23.47 d-n

Table 2 continued. 2015 comparison of agronomic characteristics, yield and lodging. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum. Means followed by the same letter do not significantly differ using LSD (0.05).

Hybrid Information*						Mean Days to Half-Bloom, Harvest Date, Lodging, Moisture and Yield					
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	Male Sterile	Days to HB	Harvest Date	% Lodging at Harvest	Height at Harvest (in)	% Moisture at Harvest	tons/ac (65% moist.)
GS BMR	Scott Seed Co.	FS	L	Y	N	89	10/18/2015	0	77	0.72	23.32 d-n
GS BMR-W	Scott Seed Co.	FS	L	Y	N	87	10/19/2015	30	84	0.70	22.12 d-n
BMR GOLD	Scott Seed Co.	FS	M	Y	N	68	10/3/2015	45	95	0.73	21.07 f-n
BMR GOLD X	Scott Seed Co.	FS	M	Y	N	68	9/18/2015	88	97	0.72	30.48 a-h
BMR GOLD X-W	Scott Seed Co.	FS	M	Y	N	67	9/18/2015	33	96	0.74	20.77 f-n
RUSH	Scott Seed Co.	FS	M	N	N	65	9/18/2015	48	100	0.72	24.41 c-n
X51423	Scott Seed Co.	FS	L	Y	N	73	10/13/2015	27	105	0.70	27.05 a-j
PSLS	Scott Seed Co.	SS	PS	Y	N	66	9/18/2015	0	102	0.74	21.56 e-n
Canex BMR208	Sharp Bros. Seed Co.	FS	ME	Y	N	67	9/20/2015	43	91	0.73	19.47 h-n
Canex BMR210	Sharp Bros. Seed Co.	FS	M	Y	N	70	9/25/2015	33	97	0.74	20.92 f-n
Canex BMR600	Sharp Bros. Seed Co.	FS	ML	Y	Y	91	11/9/2015	50	105	0.72	15.75 mn
Canex BMR525	Sharp Bros. Seed Co.	FS	M	Y	N	87	10/20/2015	0	83	0.72	21.92 d-n
Canex BMR550	Sharp Bros. Seed Co.	FS	M	Y	N	89	10/18/2015	43	83	0.68	21.84 e-n
Canex BMR555	Sharp Bros. Seed Co.	FS	M	Y	N	89	10/18/2015	56	77	0.71	24.89 b-n
Canex	Sharp Bros. Seed Co.	FS	ME	N	Y	67	9/20/2015	45	95	0.74	26.03 a-l
Canex III	Sharp Bros. Seed Co.	FS	ME	N	N	66	9/18/2015	72	92	0.76	20.63 f-n
Grazex BMR 71S	Sharp Bros. Seed Co.	SS	ML	Y	N	67	9/18/2015	0	112	0.73	22.02 d-n
Grazex BMR 301	Sharp Bros. Seed Co.	SS	M	Y	Y	65	9/23/2015	0	119	0.70	26.05 a-l
Grazex BMR 801	Sharp Bros. Seed Co.	SS	M	Y	Y	66	9/27/2015	0	119	0.70	24.30 c-n
Grazex III	Sharp Bros. Seed Co.	SS	ME	N	Y	65	9/14/2015	0	102	0.72	24.84 b-n
SPX27614	Sorghum Partners	FS	L	N	Y	89	11/8/2015	95	120	0.69	20.31 e-n
SPX28414	Sorghum Partners	FS	L	N	Y	96	10/20/2015	53	131	0.72	23.07 d-n
SPX23514	Sorghum Partners	FS	M	N	Y	68	9/24/2015	90	97	0.75	20.57 f-n
SPX37414	Sorghum Partners	FS	M	Y	Y	67	9/18/2015	27	100	0.75	22.58 d-n
SS405	Sorghum Partners	FS	L	N	Y	92	10/20/2015	67	143	0.71	23.55 d-n
SP 3903BD	Sorghum Partners	FS	MF	N	Y	87	10/21/2015	58	71	0.73	18.43 j-n
HiKane II	Sorghum Partners	FS	M	N	N	67	9/19/2015	83	99	0.71	21.89 d-n
NK300	Sorghum Partners	FS	M	N	Y	75	10/13/2015	28	85	0.79	20.41 e-n

Table 2 continued. 2015 comparison of agronomic characteristics, yield and lodging. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum. Means followed by the same letter do not significantly differ using LSD (0.05).

Hybrid Information*						Mean Days to Half-Bloom, Harvest Date, Lodging, Moisture and Yield					
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	Male Sterile	Days to HB	Harvest Date	% Lodging at Harvest	Height at Harvest (in)	% Moisture at Harvest	tons/ac (65% moist.)
SP1615	Sorghum Partners	FS	PS	N	Y	>146	11/20/2015	58	121	0.67	29.60 a-g
Sordan Headless	Sorghum Partners	SS	PS	N	Y	>146	11/20/2015	47	126	0.74	19.09 g-n
SDH2942 BMR	Sorghum Partners	SS	PS	Y	Y	122	11/20/2015	82	103	0.71	17.04 k-n
SPX59014	Sorghum Partners	SS	PS	Y	Y	>146	11/20/2015	98	98	0.71	20.08 c-n
SPX37214	Sorghum Partners	FS	M	Y	Y	67	9/24/2015	0	69	0.73	15.66 mn
SPX27514	Sorghum Partners	FS	L	N	Y	92	11/3/2015	67	137	0.68	24.57 c-n
4EverGreen	Walter Moss Seed Co.	FS	PS	N	N	128	11/20/2015	95	106	0.68	32.24 a-e
MegaGreen	Walter Moss Seed Co.	SS	PS	N	N	123	11/20/2015	53	121	0.72	19.42 h-n
Sweet Bee BMR	Warner Seeds Inc	FS	L	Y	N	87	10/16/2015	62	71	0.73	19.66 h-n
Sucrosse 7R-BMR	Warner Seeds Inc	SS	ME	Y	N	68	9/27/2015	17	107	0.71	27.15 a-j
Sucrosse 9R-PS	Warner Seeds Inc	SS	PS	N	N	>146	11/20/2015	18	123	0.70	25.24 b-n
Sucrosse 9R-PS BMR	Warner Seeds Inc	SS	PS	Y	N	79	9/29/2015	22	104	0.72	21.11 f-n
2-Way BMR Sterile II	Warner Seeds Inc	FS	M	Y	Y	67	9/19/2015	65	92	0.69	25.53 b-m
Integra 31F20	Wilbur-Ellis Co.	FS	M	N	N	72	9/29/2015	0	93	0.70	21.12 f-n
Integra 37F60	Wilbur-Ellis Co.	FS	M	N	N	65	9/19/2015	0	79	0.75	21.37 e-n
Integra 35F45	Wilbur-Ellis Co.	FS	E	N	N	63	9/18/2015	0	82	0.77	20.32 f-n
Check (84G62)	0	GS	ML	N	N	64	9/19/2015	0	58	0.74	18.20 j-n

Table 3. 2015 summary of sorghum hybrids for nutritional composition.*Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum.

Hybrid Information*					Nutrient Composition and Calculations							
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	%CP	% ADF	%NDF	%Lignin	%Starch	% Fat	%NDFD48	%IVTDM48
AF7101	Alta Seeds	FS	E	Y	9.1	31.0	44.1	4.0	26.7	2.3	55.3	79.5
AF7102	Alta Seeds	FS	E	Y	9.5	32.9	44.5	5.6	28.3	2.2	60.9	81.5
AF7201	Alta Seeds	FS	ME	Y	9.0	36.9	52.5	4.5	17.0	1.9	60.5	78.6
AF7202	Alta Seeds	FS	ME	Y	9.8	35.1	48.8	5.7	22.3	1.9	63.7	81.1
AF7301	Alta Seeds	FS	M	Y	9.3	36.1	51.8	4.3	15.1	1.8	64.7	80.3
AF7401	Alta Seeds	FS	L	Y	8.9	31.3	42.1	3.9	20.8	2.6	60.7	83.3
AF8301	Alta Seeds	FS	M	N	9.3	34.5	48.4	6.1	25.0	2.3	54.3	76.9
AS6401	Alta Seeds	SS	ML	Y	9.1	44.2	60.3	6.1	7.5	1.6	55.0	72.0
AS6402	Alta Seeds	SS	L	Y	10.7	30.0	40.9	4.5	28.0	2.7	63.7	84.4
Blackhawk 12	Blue River Hybrids	SS	M	Y	7.6	37.9	53.6	5.9	14.6	1.5	52.8	74.2
Seahawk 6	Blue River Hybrids	SS	ME	Y	7.7	36.0	51.7	5.7	16.9	2.3	47.0	72.5
Heron 6	Blue River Hybrids	SS	M	Y	9.7	37.5	53.9	4.6	13.6	1.6	59.2	77.3
Warbler	Blue River Hybrids	FS	ML	Y	8.5	31.5	45.4	3.6	17.8	2.0	59.3	81.0
Cadan 99B-WMR	Browning Seed Inc	SS	M	N	8.0	38.4	51.1	7.0	20.4	1.8	45.5	72.0
Tridan	Browning Seed Inc	SS	M	N	6.5	45.1	64.5	8.9	9.2	1.6	45.2	64.9
Sweet Sioux-WMR	Browning Seed Inc	SS	M	N	5.7	47.2	63.5	8.3	9.9	1.2	42.3	63.0
Sweet Sioux-BMR	Browning Seed Inc	SS	M	Y	8.1	40.7	55.3	6.8	13.6	1.5	46.0	69.7
Bundle King	Browning Seed Inc	FS	ME	N	8.6	37.3	51.8	5.9	14.2	2.1	51.1	74.3
Silage Master	Browning Seed Inc	FS	ML	N	7.5	37.9	54.0	6.2	12.7	1.8	47.7	71.3
Sioux Dan	Browning Seed Inc	SU	M	N	7.7	43.0	58.9	8.0	16.4	1.7	48.7	69.1
Avenger	Browning Seed Inc	FS	ML	Y	8.3	31.3	47.0	3.7	14.8	2.1	61.4	81.5
B-52	Browning Seed Inc	SS	PS	N	5.7	41.4	57.9	6.6	1.4	0.9	45.0	68.7
747	Browning Seed Inc	SS	M	N	5.2	44.5	62.6	7.4	1.0	0.8	41.0	63.3
EJ 7281	Ceres, Inc	FS	L	N	6.1	36.5	52.7	5.8	6.1	1.3	50.8	74.1
EJ 7282	Ceres, Inc	FS	L	N	6.4	35.5	51.5	5.1	10.9	2.2	53.6	75.8
DS 7853	Ceres, Inc	FS	PS	N	6.0	38.5	57.7	6.1	1.0	1.0	51.3	72.3
CB 7290	Ceres, Inc	SS	PS	N	4.8	45.9	66.0	7.9	0.7	0.9	46.1	65.1
F2P134	Ceres, Inc	SS	PS	N	5.4	38.8	55.2	6.0	1.2	0.8	46.6	71.3

Table 3 continued. 2015 summary of sorghum hybrids for nutritional composition.*Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum.

Hybrid Information*					Nutrient Composition and Calculations							
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	%CP	% ADF	%NDF	%Lignin	%Starch	% Fat	%NDFD48	%IVTDM48
DKS51-01	Monsanto	GS	ML	N	9.3	32.3	46.5	4.8	26.3	2.4	60.5	81.3
Cobalto	Monsanto	GS	ML	N	10.2	34.1	51.5	4.4	18.4	2.1	65.0	81.3
DKS-44	Monsanto	GS	ML	N	9.5	35.4	50.4	4.5	20.3	2.0	61.1	79.8
DKS-46	Monsanto	GS	ML	N	8.7	38.3	54.3	4.9	17.8	1.7	62.4	78.7
Litio	Monsanto	GS	L	N	8.4	36.8	53.2	4.6	17.2	2.3	58.2	77.3
Ambar	Monsanto	GS	ML	N	9.3	37.5	54.3	5.2	21.1	2.0	62.9	79.7
DKS53-67	Monsanto	GS	ML	N	10.4	38.6	56.0	4.4	12.2	1.9	61.1	77.9
ST6	Monsanto	SS	M	N	7.6	41.1	58.1	6.8	16.4	1.5	48.2	69.9
BMR45S	Monsanto	SS	M	Y	7.4	40.8	58.0	6.5	12.2	1.6	48.4	70.3
Sweetleaf II	Monsanto	SS	M	N	7.7	40.0	55.2	7.4	17.2	2.0	42.9	69.0
Nutricane II	Monsanto	FS	M	N	7.9	39.5	56.5	5.6	14.7	1.5	56.8	75.1
Nutrichoice II	Monsanto	FS	ML	N	5.4	38.0	52.6	5.2	14.7	2.0	54.5	76.0
FS 300	NuTech Seed, LLC	FS	ML	N	8.5	37.0	50.2	6.4	23.7	1.8	55.9	77.1
FSB 310	NuTech Seed, LLC	FS	L	Y	9.0	31.9	44.8	3.7	19.4	2.4	58.3	80.4
FSX 23	NuTech Seed, LLC	FS	ML	Y	9.5	39.2	53.8	5.1	16.5	1.6	61.8	77.9
Silo 700D	Richardson Seeds, Ltd	FS	ML	N	8.0	40.6	55.9	6.3	13.2	1.6	58.4	76.0
Silo 700D BMR	Richardson Seeds, Ltd	FS	M	Y	7.0	31.4	47.0	3.0	13.2	1.7	64.1	82.2
9500W	Richardson Seeds, Ltd	FS	M	N	9.1	37.6	53.5	4.8	22.4	2.1	63.6	79.9
Sweeter 'N Honey BMR	Richardson Seeds, Ltd	SS	E	Y	7.2	39.0	56.2	4.0	14.4	1.9	66.5	80.6
Bundle King BMR	Richardson Seeds, Ltd	FS	L	Y	5.8	31.5	46.3	2.7	9.7	1.4	63.3	83.4
Dairy Master BMR	Richardson Seeds, Ltd	FS	M	Y	7.7	36.3	54.7	3.3	11.1	2.0	64.3	80.6
X88400	Richardson Seeds, Ltd	FS	ML	Y	8.5	41.6	61.1	5.4	8.0	1.7	58.9	74.4
Sweeter 'N Honey II BMR	Richardson Seeds, Ltd	SS	L	Y	6.4	32.5	49.1	3.1	7.8	1.8	62.7	81.9
X115400	Richardson Seeds, Ltd	FS	L	Y	5.6	38.5	57.1	4.7	2.7	1.2	51.2	72.9
X105414	Richardson Seeds, Ltd	FS	M	Y	7.6	27.8	39.6	3.3	19.9	1.8	64.6	85.9
X82414	Richardson Seeds, Ltd	SS	L	Y	6.9	34.0	50.1	3.8	4.4	1.5	53.8	76.6

Table 3 continued. 2015 summary of sorghum hybrids for nutritional composition.*Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum.

Hybrid Information*					Nutrient Composition and Calculations							
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	%CP	% ADF	%NDF	%Lignin	%Starch	% Fat	%NDFD48	%IVTDM48
GS BMR	Scott Seed Co.	FS	L	Y	8.5	31.8	48.1	3.2	11.5	2.6	63.4	82.2
GS BMR-W	Scott Seed Co.	FS	L	Y	6.9	31.8	46.8	3.1	10.3	1.5	61.1	81.5
BMR GOLD	Scott Seed Co.	FS	M	Y	7.8	30.5	43.3	3.8	13.4	2.1	54.5	80.7
BMR GOLD X	Scott Seed Co.	FS	M	Y	7.9	32.7	45.9	3.6	8.2	1.8	57.7	81.0
BMR GOLD X-W	Scott Seed Co.	FS	M	Y	8.9	35.0	49.5	4.2	16.4	2.6	57.1	79.2
RUSH	Scott Seed Co.	FS	M	N	8.0	35.2	47.7	5.0	19.4	2.2	54.9	79.4
X51423	Scott Seed Co.	FS	L	Y	7.9	32.3	47.8	4.3	8.5	1.4	54.4	78.3
PSLS	Scott Seed Co.	SS	PS	Y	8.5	42.8	56.8	7.8	14.1	1.7	50.5	72.0
Canex BMR208	Sharp Bros. Seed Co.	FS	ME	Y	7.8	35.8	52.6	3.8	16.2	2.0	64.7	82.2
Canex BMR210	Sharp Bros. Seed Co.	FS	M	Y	8.5	41.1	60.3	4.7	9.4	1.4	66.1	79.6
Canex BMR600	Sharp Bros. Seed Co.	FS	ML	Y	5.9	36.7	53.9	4.0	6.9	1.2	62.3	80.8
Canex BMR525	Sharp Bros. Seed Co.	FS	M	Y	7.9	33.3	49.0	3.4	13.9	2.1	70.3	85.4
Canex BMR550	Sharp Bros. Seed Co.	FS	M	Y	8.5	28.7	42.3	2.9	11.3	1.9	64.6	85.2
Canex BMR555	Sharp Bros. Seed Co.	FS	M	Y	8.7	30.4	45.8	3.0	18.0	2.3	65.7	84.5
Canex	Sharp Bros. Seed Co.	FS	ME	N	8.5	38.3	53.2	6.7	14.2	2.0	53.1	75.2
Canex III	Sharp Bros. Seed Co.	FS	ME	N	7.9	38.2	54.2	5.3	17.1	2.3	57.2	77.0
Grazex BMR 71S	Sharp Bros. Seed Co.	SS	ML	Y	7.8	38.2	55.1	5.0	10.4	2.0	57.5	77.3
Grazex BMR 301	Sharp Bros. Seed Co.	SS	M	Y	7.4	43.5	59.6	6.7	12.2	1.9	53.2	73.0
Grazex BMR 801	Sharp Bros. Seed Co.	SS	M	Y	6.6	43.9	58.6	7.4	11.6	1.9	47.2	69.7
Grazex III	Sharp Bros. Seed Co.	SS	ME	N	8.6	41.4	55.8	7.1	15.3	1.9	52.2	73.6
SPX27614	Sorghum Partners	FS	L	N	5.2	47.4	64.8	7.8	2.2	1.4	45.0	64.9
SPX28414	Sorghum Partners	FS	L	N	7.6	47.6	67.7	7.4	2.3	1.3	50.2	67.3
SPX23514	Sorghum Partners	FS	M	N	7.8	36.5	50.8	5.0	11.4	2.1	53.5	76.9
SPX37414	Sorghum Partners	FS	M	Y	8.5	39.5	56.2	4.9	10.9	1.7	59.3	77.9
SS405	Sorghum Partners	FS	L	N	7.2	47.2	64.1	9.6	7.0	1.2	37.5	60.3
SP 3903BD	Sorghum Partners	FS	MF	N	9.8	39.7	53.8	4.7	9.2	2.0	62.3	79.6
HiKane II	Sorghum Partners	FS	M	N	7.7	32.0	45.9	4.5	12.9	1.9	54.4	79.4
NK300	Sorghum Partners	FS	M	N	8.8	37.7	51.7	5.8	13.0	1.9	54.7	76.1

Table 3 continued. 2015 summary of sorghum hybrids for nutritional composition.*Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum.

Hybrid Information*					Nutrient Composition and Calculations							
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	%CP	% ADF	%NDF	%Lignin	%Starch	% Fat	%NDFD48	%IVTDMD48
SP1615	Sorghum Partners	FS	PS	N	5.7	40.9	60.1	6.0	1.4	0.8	52.6	72.6
Sordan Headless	Sorghum Partners	SS	PS	N	5.8	43.3	59.6	6.8	1.0	0.8	44.7	68.2
SDH2942 BMR	Sorghum Partners	SS	PS	Y	5.8	41.0	56.1	5.4	1.0	0.9	45.3	69.8
SPX59014	Sorghum Partners	SS	PS	Y	7.1	41.9	58.2	5.3	0.7	0.9	55.9	75.0
SPX37214	Sorghum Partners	FS	M	Y	9.9	34.0	50.5	3.2	15.3	2.3	71.8	85.8
SPX27514	Sorghum Partners	FS	L	N	5.3	44.5	62.4	7.5	4.7	1.3	42.7	65.1
4EverGreen	Walter Moss Seed Co.	FS	PS	N	5.9	39.0	58.7	5.4	1.1	1.0	51.2	72.5
MegaGreen	Walter Moss Seed Co.	SS	PS	N	5.9	39.8	56.3	6.0	1.2	1.2	45.8	70.5
Sweet Bee BMR	Warner Seeds Inc	FS	L	Y	8.2	31.3	45.7	3.3	13.5	2.2	60.9	82.3
Sucrosse 7R-BMR	Warner Seeds Inc	SS	ME	Y	8.4	42.3	58.2	6.1	13.4	1.7	55.0	74.2
Sucrosse 9R-PS	Warner Seeds Inc	SS	PS	N	4.6	38.9	54.0	5.7	1.6	1.1	45.2	71.7
Sucrosse 9R-PS BMR	Warner Seeds Inc	SS	PS	Y	8.6	43.1	62.0	5.8	4.0	1.7	53.7	71.7
2-Way BMR Sterile II	Warner Seeds Inc	FS	M	Y	8.3	32.6	45.6	4.8	14.0	2.2	55.3	79.5
Integra 31F20	Wilbur-Ellis Co.	FS	M	N	10.1	36.6	49.0	4.7	20.2	1.9	61.8	81.5
Integra 37F60	Wilbur-Ellis Co.	FS	M	N	9.6	31.7	43.8	4.5	23.6	2.0	61.6	83.1
Integra 35F45	Wilbur-Ellis Co.	FS	E	N	9.6	34.3	47.0	4.9	23.5	2.1	60.8	81.3
Check (84G62)		GS	ML	N	9.7	31.0	44.4	4.1	26.2	2.3	60.5	82.4

Table 4. 2015 summary of sorghum hybrids for calculated nutritional quality.*Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum.

Hybrid Information*					Nutritional Quality Calculations		
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	RFQ	TDN	Milk/ton
AF7101	Alta Seeds	FS	E	Y	144	61	3404
AF7102	Alta Seeds	FS	E	Y	153	62	3401
AF7201	Alta Seeds	FS	ME	Y	123	58	3111
AF7202	Alta Seeds	FS	ME	Y	141	59	3195
AF7301	Alta Seeds	FS	M	Y	134	59	3142
AF7401	Alta Seeds	FS	L	Y	164	63	3494
AF8301	Alta Seeds	FS	M	N	123	58	3156
AS6401	Alta Seeds	SS	ML	Y	88	50	2627
AS6402	Alta Seeds	SS	L	Y	179	66	3646
Blackhawk 12	Blue River Hybrids	SS	M	Y	103	54	2947
Seahawk 6	Blue River Hybrids	SS	ME	Y	97	54	2953
Heron 6	Blue River Hybrids	SS	M	Y	113	55	2925
Warbler	Blue River Hybrids	FS	ML	Y	146	61	3359
Cadan 99B-WMR	Browning Seed Inc	SS	M	N	95	53	2910
Tridan	Browning Seed Inc	SS	M	N	63	45	2436
Sweet Sioux-WMR	Browning Seed Inc	SS	M	N	58	43	2329
Sweet Sioux-BMR	Browning Seed Inc	SS	M	Y	81	49	2609
Bundle King	Browning Seed Inc	FS	ME	N	104	55	2970
Silage Master	Browning Seed Inc	FS	ML	N	92	52	2885
Sioux Dan	Browning Seed Inc	SU	M	N	79	48	2599
Avenger	Browning Seed Inc	FS	ML	Y	143	60	3288
B-52	Browning Seed Inc	SS	PS	N	76	48	2648
747	Browning Seed Inc	SS	M	N	58	43	2350
EJ 7281	Ceres, Inc	FS	L	N	101	54	2955
EJ 7282	Ceres, Inc	FS	L	N	112	56	3078
DS 7853	Ceres, Inc	FS	PS	N	89	51	2794
CB 7290	Ceres, Inc	SS	PS	N	62	44	2414
F2P134	Ceres, Inc	SS	PS	N	85	51	2783
DKS51-01	Monsanto	GS	ML	N	146	62	3407
Cobalto	Monsanto	GS	ML	N	136	59	3194
DKS-44	Monsanto	GS	ML	N	130	58	3117
DKS-46	Monsanto	GS	ML	N	118	55	2906
Litio	Monsanto	GS	L	N	116	56	3045
Ambar	Monsanto	GS	ML	N	124	58	3117
DKS53-67	Monsanto	GS	ML	N	110	54	2804
ST6	Monsanto	SS	M	N	81	49	2670
BMR45S	Monsanto	SS	M	Y	82	50	2711
Sweetleaf II	Monsanto	SS	M	N	80	51	2804
Nutricane II	Monsanto	FS	M	N	103	54	2891
Nutrichoice II	Monsanto	FS	ML	N	110	55	3021

Table 4 continued. 2015 summary of sorghum hybrids for calculated nutritional quality.*Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum.

Hybrid Information*					Nutritional Quality Calculations		
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	RFQ	TDN	Milk/ton
FS 300	NuTech Seed, LLC	FS	ML	N	120	57	3096
FSB 310	NuTech Seed, LLC	FS	L	Y	145	61	3322
FSX 23	NuTech Seed, LLC	FS	ML	Y	119	56	2935
Silo 700D	Richardson Seeds, Ltd	FS	ML	N	107	54	2867
Silo 700D BMR	Richardson Seeds, Ltd	FS	M	Y	155	63	3523
9500W	Richardson Seeds, Ltd	FS	M	N	127	58	3109
Sweeter 'N Honey BMR	Richardson Seeds, Ltd	SS	E	Y	128	58	3081
Bundle King BMR	Richardson Seeds, Ltd	FS	L	Y	154	63	3465
Dairy Master BMR	Richardson Seeds, Ltd	FS	M	Y	128	59	3214
X88400	Richardson Seeds, Ltd	FS	ML	Y	97	52	2761
Sweeter 'N Honey II BMR	Richardson Seeds, Ltd	SS	L	Y	143	61	3387
X115400	Richardson Seeds, Ltd	FS	L	Y	91	52	2820
X105414	Richardson Seeds, Ltd	FS	M	Y	187	66	3662
X82414	Richardson Seeds, Ltd	SS	L	Y	115	56	3068
GS BMR	Scott Seed Co.	FS	L	Y	146	61	3346
GS BMR-W	Scott Seed Co.	FS	L	Y	142	60	3234
BMR GOLD	Scott Seed Co.	FS	M	Y	145	61	3418
BMR GOLD X	Scott Seed Co.	FS	M	Y	139	60	3264
BMR GOLD X-W	Scott Seed Co.	FS	M	Y	127	59	3234
RUSH	Scott Seed Co.	FS	M	N	129	59	3296
X51423	Scott Seed Co.	FS	L	Y	125	58	3212
PSLS	Scott Seed Co.	SS	PS	Y	89	51	2728
Canex BMR208	Sharp Bros. Seed Co.	FS	ME	Y	137	61	3328
Canex BMR210	Sharp Bros. Seed Co.	FS	M	Y	116	56	2928
Canex BMR600	Sharp Bros. Seed Co.	FS	ML	Y	125	58	3159
Canex BMR525	Sharp Bros. Seed Co.	FS	M	Y	159	63	3400
Canex BMR550	Sharp Bros. Seed Co.	FS	M	Y	174	65	3581
Canex BMR555	Sharp Bros. Seed Co.	FS	M	Y	160	63	3425
Canex	Sharp Bros. Seed Co.	FS	ME	N	106	55	3034
Canex III	Sharp Bros. Seed Co.	FS	ME	N	111	56	3017
Grazex BMR 71S	Sharp Bros. Seed Co.	SS	ML	Y	109	55	2962
Grazex BMR 301	Sharp Bros. Seed Co.	SS	M	Y	88	51	2737
Grazex BMR 801	Sharp Bros. Seed Co.	SS	M	Y	79	49	2661
Grazex III	Sharp Bros. Seed Co.	SS	ME	N	93	52	2758
SPX27614	Sorghum Partners	FS	L	N	61	44	2387
SPX28414	Sorghum Partners	FS	L	N	65	44	2341
SPX23514	Sorghum Partners	FS	M	N	114	57	3127
SPX37414	Sorghum Partners	FS	M	Y	109	55	2934
SS405	Sorghum Partners	FS	L	N	49	40	2173
SP 3903BD	Sorghum Partners	FS	MF	N	121	57	3016

Table 4 continued. 2015 summary of sorghum hybrids for calculated nutritional quality.*Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum.

Hybrid Information*					Nutritional Quality Calculations		
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	RFQ	TDN	Milk/ton
HiKane II	Sorghum Partners	FS	M	N	134	60	3327
NK300	Sorghum Partners	FS	M	N	109	54	2896
SP1615	Sorghum Partners	FS	PS	N	87	51	2805
Sordan Headless	Sorghum Partners	SS	PS	N	71	47	2537
SDH2942 BMR	Sorghum Partners	SS	PS	Y	79	48	2628
SPX59014	Sorghum Partners	SS	PS	Y	95	51	2679
SPX37214	Sorghum Partners	FS	M	Y	155	62	3298
SPX27514	Sorghum Partners	FS	L	N	63	45	2510
4EverGreen	Walter Moss Seed Co.	FS	PS	N	88	51	2825
MegaGreen	Walter Moss Seed Co.	SS	PS	N	81	50	2711
Sweet Bee BMR	Warner Seeds Inc	FS	L	Y	148	61	3369
Sucrosse 7R-BMR	Warner Seeds Inc	SS	ME	Y	94	52	2746
Sucrosse 9R-PS	Warner Seeds Inc	SS	PS	N	87	52	2859
Sucrosse 9R-PS BMR	Warner Seeds Inc	SS	PS	Y	82	48	2541
2-Way BMR Sterile II	Warner Seeds Inc	FS	M	Y	137	60	3348
Integra 31F20	Wilbur-Ellis Co.	FS	M	N	135	59	3171
Integra 37F60	Wilbur-Ellis Co.	FS	M	N	157	62	3393
Integra 35F45	Wilbur-Ellis Co.	FS	E	N	142	60	3278
Check (84G62)		GS	ML	N	154	62	3443

Table 5. 2015 summary of the top 25 yielding sorghum hybrids. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum. Means followed by the same letter do not significantly differ using LSD (0.05).

Hybrid Information*						Mean Days to Half-Bloom, Harvest Date, Lodging, Moisture and Yield						
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	Male Sterile	Days to HB	Harvest Date	% Lodging at Harvest	Height at Harvest (in)	% Moisture at Harvest	tons/ac (65% moist.)	
DS 7853	Ceres, Inc	FS	PS	N	N	>146	11/20/2015	48	118.5	0.70	36.67	a
EJ 7282	Ceres, Inc	FS	L	N	N	87	10/14/2015	35	126.0	0.73	34.73	ab
F2P134	Ceres, Inc	SS	PS	N	N	139	11/20/2015	30	120.7	0.70	34.08	abc
4EverGreen	Walter Moss Seed Co.	FS	PS	N	N	128	11/20/2015	95	106.0	0.68	32.24	a-e
X105414	Richardson Seeds, Ltd	FS	M	Y	N	87	10/19/2015	35	101.7	0.67	31.82	abcd
BMR GOLD X	Scott Seed Co.	FS	M	Y	N	68	9/18/2015	88	96.7	0.72	30.48	a-h
Silo 700D BMR	Richardson Seeds, Ltd	FS	M	Y	N	88	10/16/2015	33	95.7	0.67	30.21	a-f
SP1615	Sorghum Partners	FS	PS	N	Y	>146	11/20/2015	58	121.0	0.67	29.60	a-g
CB 7290	Ceres, Inc	SS	PS	N	N	>146	11/20/2015	45	116.7	0.70	28.92	a-i
X115400	Richardson Seeds, Ltd	FS	L	Y	N	85	10/29/2015	88	97.0	0.72	28.16	a-j
Bundle King BMR	Richardson Seeds, Ltd	FS	L	Y	Y	85	10/17/2015	74	104.0	0.70	27.39	a-l
Sioux Dan	Browning Seed Inc	SU	M	N	N	67	9/22/2015	0	113.0	0.65	27.39	a-j
Sucrosse 7R-BMR	Warner Seeds Inc	SS	ME	Y	N	68	9/27/2015	17	107.3	0.71	27.15	a-j
X51423	Scott Seed Co.	FS	L	Y	N	73	10/13/2015	27	105.3	0.70	27.05	a-j
Sweeter 'N Honey BMR	Richardson Seeds, Ltd	SS	E	Y	N	67	9/23/2015	0	95.0	0.72	26.65	a-k
Nutricane II	Monsanto	FS	M	N	Y	67	9/25/2015	0	101.3	0.74	26.24	a-l
Nutrichoice II	Monsanto	FS	ML	N	N	82	10/17/2015	40	92.3	0.72	26.18	a-l
Grazex BMR 301	Sharp Bros. Seed Co.	SS	M	Y	Y	65	9/23/2015	0	118.7	0.70	26.05	a-l
AF7401	Alta Seeds	FS	L	Y	N	83	10/15/2015	0	84.3	0.74	26.03	a-l
Canex	Sharp Bros. Seed Co.	FS	ME	N	Y	67	9/20/2015	45	95.0	0.74	26.03	a-l
Silo 700D	Richardson Seeds, Ltd	FS	ML	N	N	80	10/15/2015	0	96.3	0.72	25.55	b-m
2-Way BMR Sterile II	Warner Seeds Inc	FS	M	Y	Y	67	9/19/2015	65	91.7	0.69	25.53	b-m
Dairy Master BMR	Richardson Seeds, Ltd	FS	M	Y	N	68	9/22/2015	38	106.3	0.71	25.30	b-n
Sucrosse 9R-PS	Warner Seeds Inc	SS	PS	N	N	>146	11/20/2015	18	123.3	0.70	25.24	b-n
ST6	Monsanto	SS	M	N	Y	67	9/20/2015	0	109.0	0.66	25.21	b-n

Table 6. 2015 summary of the top 25 sorghum hybrids by RFQ. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum

Hybrid Information*					Nutrient Composition and Calculations						
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	%CP	%Starch	%NDFD48	%IVTDMD48	RFQ	TDN	Milk/ton
X105414	Richardson Seeds, Ltd	FS	M	Y	7.6	19.9	64.6	85.9	187.3	65.9	3662.0
AS6402	Alta Seeds	SS	L	Y	10.7	28.0	63.7	84.4	179.3	65.5	3646.0
Canex BMR550	Sharp Bros. Seed Co.	FS	M	Y	8.5	11.3	64.6	85.2	173.6	64.7	3581.0
AF7401	Alta Seeds	FS	L	Y	8.9	20.8	60.7	83.3	163.9	63.3	3494.0
Canex BMR555	Sharp Bros. Seed Co.	FS	M	Y	8.7	18.0	65.7	84.5	159.9	62.7	3425.0
Canex BMR525	Sharp Bros. Seed Co.	FS	M	Y	7.9	13.9	70.3	85.4	159.4	62.9	3400.0
Integra 37F60	Wilbur-Ellis Co.	FS	M	N	9.6	23.6	61.6	83.1	157.0	61.2	3393.0
SPX37214	Sorghum Partners	FS	M	Y	9.9	15.3	71.8	85.8	155.3	49.6	3298.0
Silo 700D BMR	Richardson Seeds, Ltd	FS	M	Y	7.0	13.2	64.1	82.2	155.1	63.4	3523.0
Bundle King BMR	Richardson Seeds, Ltd	FS	L	Y	5.8	9.7	63.3	83.4	154.0	62.7	3465.0
Check (84G62)		GS	ML	N	9.7	26.2	60.5	82.4	153.8	61.1	3443.0
AF7102	Alta Seeds	FS	E	Y	9.5	28.3	60.9	81.5	152.9	62.0	3401.0
Sweet Bee BMR	Warner Seeds Inc	FS	L	Y	8.2	13.5	60.9	82.3	148.3	48.3	3369.0
DKS51-01	Monsanto	GS	ML	N	9.3	26.3	60.5	81.3	146.5	61.7	3407.0
GS BMR	Scott Seed Co.	FS	L	Y	8.5	11.5	63.4	82.2	145.9	61.2	3346.0
Warbler	Blue River Hybrids	FS	ML	Y	8.5	17.8	59.3	81.0	145.9	61.1	3359.0
FSB 310	NuTech Seed, LLC	FS	L	Y	9.0	19.4	58.3	80.4	145.3	60.6	3322.0
BMR GOLD	Scott Seed Co.	FS	M	Y	7.8	13.4	54.5	80.7	145.2	61.4	3418.0
AF7101	Alta Seeds	FS	E	Y	9.1	26.7	55.3	79.5	143.7	61.3	3404.0
Avenger	Browning Seed Inc	FS	ML	Y	8.3	14.8	61.4	81.5	143.2	60.4	3288.0
Sweeter 'N Honey II BMR	Richardson Seeds, Ltd	SS	L	Y	6.4	7.8	62.7	81.9	142.8	61.4	3387.0
GS BMR-W	Scott Seed Co.	FS	L	Y	6.9	10.3	61.1	81.5	142.2	59.7	3234.0
Integra 35F45	Wilbur-Ellis Co.	FS	E	N	9.6	23.5	60.8	81.3	141.8	58.8	3278.0
AF7202	Alta Seeds	FS	ME	Y	9.8	22.3	63.7	81.1	140.7	59.5	3195.0
BMR GOLD X	Scott Seed Co.	FS	M	Y	7.9	8.2	57.7	81.0	138.9	59.7	3264.0

Table 7. 2015 yield summary of brachytic entries. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum

Hybrid Information*					Mean Days to Half-Bloom, Harvest Date, Lodging, Moisture and Yield							
Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	Male Sterile	Days to HB	Harvest Date	% Lodging at Harvest	Height at Harvest (in)	% Moisture at Harvest	tons/ac (65% moist.)	
AF7102	Alta Seeds	FS	E	Y	N	66.0	9/18/2015	0	83	0.77	19.6	
AF7202	Alta Seeds	FS	ME	Y	N	64.0	9/18/2015	23	78	0.77	18.9	
AF7401	Alta Seeds	FS	L	Y	N	83.0	10/15/2015	0	84	0.74	26.0	
SP 3903BD	Sorghum Partners	FS	MF	N	Y	87.0	10/21/2015	58	71	0.73	18.4	
Sweet Bee BMR	Warner Seeds Inc	FS	L	Y	N	87.0	10/16/2015	62	71	0.73	19.7	
								Average	20	79	0.75	20.7
								Trial Average	29	98	0.72	22.8

Table 8. 2015 nutritional summary of brachytic entries. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum

Hybrid Information*			Nutrient Composition and Calculations									
Hybrid	Company	Sorghum Type	%CP	% ADF	%NDF	%Lignin	%Starch	% Fat	%NDFD48	%IVTDM48	RFQ	
AF7102	Alta Seeds	FS	9.5	32.9	44.5	5.6	28.3	2.2	60.9	81.5	153	
AF7202	Alta Seeds	FS	9.8	35.1	48.8	5.7	22.3	1.9	63.7	81.1	141	
AF7401	Alta Seeds	FS	8.9	31.3	42.1	3.9	20.8	2.6	60.7	83.3	164	
SP 3903BD	Sorghum Partners	FS	9.8	39.7	53.8	4.7	9.2	2.0	62.3	79.6	121	
Sweet Bee BMR	Warner Seeds Inc	FS	8.2	31.3	45.7	3.3	13.5	2.2	60.9	82.3	148	
			Average	9.5	34.7	47.3	5.0	20.2	2.2	61.9	81.4	145
			Trial Average	7.8	37.4	53.0	5.3	12.9	1.8	55.7	76.3	114

Table 9. 2015 Sugarcane aphid ratings at three dates following one aerial Transform application.

*Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum

Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	8/30/15 SCA Rating	9/10/2015 SCA Rating	10/28/2015 SCA Rating
AF7101	Alta Seeds	FS	E	Y	0	1	1
AF7102	Alta Seeds	FS	E	Y	1	1	0
AF7301	Alta Seeds	FS	M	Y	4	1	1
AS6402	Alta Seeds	SS	L	Y	2	1	0
AF8301	Alta Seeds	FS	M	N	7	3	1
AF7201	Alta Seeds	FS	ME	Y	1	2	1
AS6401	Alta Seeds	SS	ML	Y	1	0	0
AF7202	Alta Seeds	FS	ME	Y	1	1	0
AF7401	Alta Seeds	FS	L	Y	2	1	0
Seahawk 6	Blue River Hybrids	SS	ME	Y	1	0	0
Warbler	Blue River Hybrids	FS	ML	Y	5	1	0
Heron 6	Blue River Hybrids	SS	M	Y	5	1	1
Blackhawk 12	Blue River Hybrids	SS	M	Y	1	1	0
Sweet Sioux-WMR	Browning Seed Inc	SS	M	N	0	0	0
Sioux Dan	Browning Seed Inc	SU	M	N	1	0	0
B-52	Browning Seed Inc	SS	PS	N	2	1	0
747	Browning Seed Inc	SS	M	N	1	1	1
Avenger	Browning Seed Inc	FS	ML	Y	1	1	0
Cadan 99B-WMR	Browning Seed Inc	SS	M	N	1	1	0
Silage Master	Browning Seed Inc	FS	ML	N	6	1	1
Tridan	Browning Seed Inc	SS	M	N	1	1	0
Sweet Sioux-BMR	Browning Seed Inc	SS	M	Y	2	2	1
Bundle King	Browning Seed Inc	FS	ME	N	1	1	1
CB 7290	Ceres, Inc	SS	PS	N	2	1	0
DS 7853	Ceres, Inc	FS	PS	N	0	1	0
F2P134	Ceres, Inc	SS	PS	N	2	1	0
EJ 7282	Ceres, Inc	FS	L	N	2	1	0
EJ 7281	Ceres, Inc	FS	L	N	1	1	0
BMR45S	Monsanto	SS	M	Y	1	1	0
Nutricane II	Monsanto	FS	M	N	1	1	2
DKS51-01	Monsanto	GS	ML	N	5	1	1
DKS-44	Monsanto	GS	ML	N	4	2	1
DKS53-67	Monsanto	GS	ML	N	5	1	1
ST6	Monsanto	SS	M	N	0	1	0
Sweetleaf II	Monsanto	SS	M	N	1	0	0

Table 9 continued. 2015 Sugarcane aphid ratings at three dates following one aerial Transform application. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum

Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	8/30/15 SCA Rating	9/10/2015 SCA Rating	10/28/2015 SCA Rating
Litio	Monsanto	GS	L	N	1	1	0
Ambar	Monsanto	GS	ML	N	1	1	0
DKS-46	Monsanto	GS	ML	N	2	1	0
Nutrichoice II	Monsanto	FS	ML	N	1	1	0
Cobalto	Monsanto	GS	ML	N	1	0	0
FS 300	NuTech Seed, LLC	FS	ML	N	0	1	0
FSX 23	NuTech Seed, LLC	FS	ML	Y	4	3	1
FSB 310	NuTech Seed, LLC	FS	L	Y	1	1	0
Check (84G62)	Pioneer	GS	ML	N	6	1	1
Pacesetter BMR	Richardson Seeds, Ltd	FS	PS	Y	1	1	1
Sweeter 'N Honey BMR	Richardson Seeds, Ltd	SS	E	Y	2	1	0
X105414	Richardson Seeds, Ltd	FS	M	Y	4	2	0
Bundle King BMR	Richardson Seeds, Ltd	FS	L	Y	0	1	0
X88400	Richardson Seeds, Ltd	FS	ML	Y	7	0	0
X115400	Richardson Seeds, Ltd	FS	L	Y	0	0	0
X82414	Richardson Seeds, Ltd	SS	L	Y	0	0	0
Dairy Master BMR	Richardson Seeds, Ltd	FS	M	Y	1	1	0
Silo 700D	Richardson Seeds, Ltd	FS	ML	N	4	1	0
9500W	Richardson Seeds, Ltd	FS	M	N	1	0	0
Sweeter 'N Honey II BMR	Richardson Seeds, Ltd	SS	L	Y	2	2	1
Silo 700D BMR	Richardson Seeds, Ltd	FS	M	Y	2	1	1
RUSH	Scott Seed Co.	FS	M	N	1	1	0
BMR GOLD X-W	Scott Seed Co.	FS	M	Y	1	0	0
BMR GOLD X	Scott Seed Co.	FS	M	Y	1	1	0
PSLS	Scott Seed Co.	SS	PS	Y	1	1	0
BMR GOLD	Scott Seed Co.	FS	M	Y	1	2	1
X51423	Scott Seed Co.	FS	L	Y	2	2	1
GS BMR-W	Scott Seed Co.	FS	L	Y	1	2	1
GS BMR	Scott Seed Co.	FS	L	Y	6	1	1
Canex BMR525	Sharp Bros. Seed Co.	FS	M	Y	2	2	0
Canex BMR208	Sharp Bros. Seed Co.	FS	ME	Y	1	0	0
Canex III	Sharp Bros. Seed Co.	FS	ME	N	1	1	0
Grazex III	Sharp Bros. Seed Co.	SS	ME	N	1	0	0
Canex BMR550	Sharp Bros. Seed Co.	FS	M	Y	4	0	0
Grazex BMR 801	Sharp Bros. Seed Co.	SS	M	Y	1	1	1

Table 9 continued. 2015 Sugarcane aphid ratings at three dates following one aerial Transform application. *Hybrid information was provided by seed companies. Male sterile entries were pollinated by other hybrids. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum

Hybrid	Company	Sorghum Type	Maturity	Brown Midrib	8/30/15 SCA Rating	9/10/2015 SCA Rating	10/28/2015 SCA Rating
Canex BMR555	Sharp Bros. Seed Co.	FS	M	Y	1	1	0
Canex BMR210	Sharp Bros. Seed Co.	FS	M	Y	0	0	0
Canex BMR600	Sharp Bros. Seed Co.	FS	ML	Y	1	1	0
Grazex BMR 301	Sharp Bros. Seed Co.	SS	M	Y	1	2	1
Canex	Sharp Bros. Seed Co.	FS	ME	N	1	1	1
Grazex BMR 71S	Sharp Bros. Seed Co.	SS	ML	Y	1	0	0
SPX28414	Sorghum Partners	FS	L	N	1	1	0
SPX37214	Sorghum Partners	FS	PS	Y	6	0	1
SDH2942 BMR	Sorghum Partners	SS	PS	Y	1	0	0
SPX27514	Sorghum Partners	FS	L	N	1	1	0
SP 3903BD	Sorghum Partners	FS	MF	N	2	1	1
SPX23514	Sorghum Partners	FS	M	N	1	0	0
SPX59014	Sorghum Partners	SS	PS	Y	1	1	0
SPX27614	Sorghum Partners	FS	L	N	0	1	0
SS405	Sorghum Partners	FS	L	N	0	1	0
SPX37414	Sorghum Partners	FS	PS	Y	2	3	0
HiKane II	Sorghum Partners	FS	M	N	0	1	0
NK300	Sorghum Partners	FS	M	N	8	3	0
Sordan Headless	Sorghum Partners	SS	PS	N	3	0	0
SP1615	Sorghum Partners	FS	PS	N	0	1	2
4EverGreen	Walter Moss Seed Co.	FS	PS	N	1	0	0
MegaGreen	Walter Moss Seed Co.	SS	PS	N	0	1	0
Sucrosse 9R-PS BMR	Warner Seeds Inc	SS	PS	Y	1	1	0
Sweet Bee BMR	Warner Seeds Inc	FS	L	Y	2	1	0
Sucrosse 7R-BMR	Warner Seeds Inc	SS	ME	Y	0	0	0
Sucrosse 9R-PS	Warner Seeds Inc	SS	PS	N	0	1	0
2-Way BMR Sterile II	Warner Seeds Inc	FS	M	Y	0	0	0
Integra 31F20	Wilbur-Ellis Co.	FS	M	N	2	1	0
Integra 37F60	Wilbur-Ellis Co.	FS	M	N	2	1	0
Integra 35F45	Wilbur-Ellis Co.	FS	E	N	1	0	0

Table 10. Comparison of yield and lodging between two populations for three varieties. *Hybrid information was provided by seed companies. FS=Forage Sorghum, SS=Sorghum Sudan, SU=Sudangrass, GS=Grain Sorghum

Entry	Hybrid	Company	Population (thousand seeds/ac)	Sorghum Type	Maturity	Brown Midrib	Days to HB	Harvest Date	% Lodging at Harvest	Height at Harvest (in)	% Moisture at Harvest	tons/ac	
46	Silo 700D BMR	Richardson Seeds, Ltd	100	FS	M	Y	88	10/16/2015	33	96	0.67	30.21	a
101	Silo 700D BMR	Richardson Seeds, Ltd	75	FS	M	Y	90	10/21/2015	0	96.5	0.73	25.32	ab
102	NK300	Sorghum Partners	75	FS	M	N	75	10/13/2015	15	86.0	0.71	23.64	abc
83	NK300	Sorghum Partners	100	FS	M	N	75	10/13/2015	28	84.7	0.79	20.41	bc
4	AF7202	Alta Seeds	100	FS	ME	Y	64	9/18/2015	23	78.0	0.77	18.90	bc
103	AF7202	Alta Seeds	75	FS	ME	Y	67	9/18/2015	0	79.7	0.79	16.77	c