

2011 Texas Panhandle Forage Sorghum Silage Trial

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Introduction

This year's silage trial consisted of 65 entries that included 26 nonBMR and 39 BMR forage sorghums (including sorghum-sudangrass). Eight photoperiod sensitive (PS) sorghums were also entered in the trial. This year's results were strongly influenced by record high summer temperatures and severe drought. The trial was located at the Texas AgriLife Research Station approximately 8 miles west of Amarillo. Silage trial summaries from previous years are posted at the Amarillo AgriLife website at <http://amarillo.tamu.edu/programs>. In addition to the silage trials, summaries of limited irrigated sorghum hay trials are posted at the same website.

Methods and Materials

Seed companies on a per fee basis submitted all varieties that are included in the trial. Several male sterile varieties were included. With the exception of the photoperiod sensitive (PS) varieties, all entries were capable of producing grain due to cross-pollination that occurred in the field with other varieties. Seed companies will provide pollinator seed for male sterile varieties upon request. Entries were planted in a randomized block design in four row plots planted on 30-inch raised beds. Irrigation was applied by furrow and the three replications (blocks) were stacked with the first replication being closest to the gated pipe, followed by the second and third replications. Irrigation scheduling was determined by monitoring gypsum blocks in four randomly selected plots. Each of these plots had three gypsum blocks placed in the soil at depths of 1, 2, and 3 feet. Gypsum blocks were read weekly and all plots were irrigated when the average of the three moisture blocks fell below 60. Approximately 20.3 inches of irrigation water was applied during the season. PS entries were blocked separately and received an additional two late season irrigations bringing their total irrigation to 24.3 inches. Irrigation amounts do not include a pre-plant irrigation that was applied to insure uniform emergence. Rainfall totaled less than 2 inches during the growing season with no single rainfall event totaling more than 0.5 inches. Each variety was harvested for forage yield when grain reached the soft dough stage. PS varieties were harvested on the last harvest date of the season (Oct 21). Grain yield was collected in November only from those entries where it was requested by the seed company.

Other cultural practices and study information are listed below:

Trial Location:	Bush farm located one mile north of Bushland, TX
Cooperator:	Texas AgriLife Research
Previous Crop:	Fallow
Soil Type:	Pullman Clay Loam, pH = 7.4
Plot Size:	Four, 30 inch rows by 25 ft
Replications:	3
Study Design:	Randomized complete block

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Planting Date: May 19, 2011
 Planting Rate: 100,000 seed/acre
 Seed Method: John Deere Max-emerge Planter
 Fertilizer: Only 50 lb/acre N and 50 lb/acre P₂O₅ was applied prior to planting based on soil test results for a 30 ton/acre yield. Residual N and P was considerable.
 Herbicide: One lb/acre atrazine applied three days after planting.
 Irrigation: See narrative above.
 Silage Harvest Date: Plots were checked weekly and harvested when grain was in the soft dough stage. Harvest dates ranged from September 2nd to October 21st and are reported in Table 2.
 Grain Harvest Date: November. Only from those entries where it was requested by the specific seed company.

Data Collected:

- Plant height (ft) at silage harvest
- Lodging at silage harvest. Percent of fallen or significantly leaning plants.
- Forage (silage) yield. Collected at or near the soft dough stage from 10 feet of row. Yield is reported at 65% moisture in tons/acre.
- Nutrient analysis: Whole plant sub-samples were collected from the yield sample immediately after harvest, chopped, and dried at 135 F. These sub-samples were sent to **Dairyland Laboratories**, Arcadia, WI for analysis. All nutrient constituents were adjusted to a 100% moisture-free basis.
- Grain yield was collected from 10 feet of row. Samples were thrashed and yield reported in lb/acre. *Grain yield was not corrected for moisture but was dry at harvest.*
- Key Nutrient Analysis Definitions
 - Crude Protein:** 6.25 times % total nitrogen
 - TDN:** Estimate of Total Digestible Nutrients
 - NDF:** % Neutral Detergent Fiber; cell wall fraction of the forage
 - ADF:** % Acid Detergent Fiber; constituent of the cell wall includes cellulose and lignin; inversely related to energy availability
 - IVTD:** % In Vitro True Digestibility; positively related to energy availability
 - NDFD** The % of the NDF that is digestible in the rumen
 - RFV:** Relative Feed Value is an index for comparing forages based on digestibility and intake potential. RFV is calculated from ADF and NDF. An RFV of 100 is considered the average score and represents alfalfa hay containing 41% ADF and 53% NDF on a dry matter digestibility.
 - RFQ:** Relative Forage Quality is an index for comparing forages. RFQ is calculated from CP, ADF, NDF, fat, ash and NDF digestibility measured at 48 hours. It should be more reflective of the feeding value of the forage. RFQ is based on the same scoring system as RFV with an average score of 100. The higher the RFQ score the better the quality.
 - Milk lbs/ton:** A projection of potential milk yield per ton for forage dry matter.
 - Kd, %/hr** NDF digestion rate

Results and Discussion

A summary of yield, agronomic traits, and nutrient composition, are reported by groups of different sorghum types in Table 1. See Table 2 for a comparison of each specific variety's agronomy characteristics, yield, and nutrient composition.

Table 1. Summary of key characteristics by sorghum type.

Sorghum Type ¹⁾	% Lodging @ Harvest	Tons/ac @ 65% Moist.	% Crude Protein	% ADF	% NDF	% Lignin	% Starch	% NDFD	% IVTD	Milk lbs/ton DM	Relative Forage Quality (RFQ)
NonBMR (22)	12.2	21.9	6.7	35.1	51.4	4.9	12.5	40.7	69.5	1,780	102
BMR (35)	9.8	20.1	7.3	34.5	51.1	4.3	10.9	46.5	72.7	2,045	115
PS NonBMR (4)	15.0	23.0	5.8	41.8	60.8	5.6	1.9	41.7	64.5	1,527	73
PS BMR (4)	7.9	22.9	5.5	40.9	62.5	4.8	1.6	46.7	66.7	1,820	82
Test Avg.	10.5	21.1	6.9	35.4	52.2	4.6	10.9	44.2	70.9	1,915	106

¹⁾ Number in parenthesis is the number of hybrids that make up each sorghum type. BMR = Brown midrib, PS = Photoperiod sensitive.

Forage yield test average was 21.1 ton/acre, well below the 2010 average of 24.3 ton/acre. BMR sorghums yielded 1.8 tons less than the NonBMR. The PS sorghums had the highest average yields, but were not as high as in previous years. Possibly the high temperatures affected the PS varieties more than the others. Lodging, as in previous years, was very variety specific.

Digestibility and overall forage quality was highest with BMR varieties as estimated by ADF, NDF, IVTD, NDFD, estimated milk produced per ton, and relative forage quality (Table 1). Starch content was higher with the NonBMR sorghums indicating greater grain content.

Varieties can be ranked in various ways depending on the selection criteria. For this study, it was decided to place an emphasis on digestibility (energy), lodging and yield (Table 3). A list of the top 25% of the varieties was developed by first selecting only the varieties that were statistically highest in % IVTD. Second, all varieties that lodged more than 20% were eliminated. From the remaining varieties, the 16 highest yielding were considered the top 25% varieties in the trial. Of these varieties, yield ranged from a low of 16.1 ton/acre with Sweeter N Honey BMR to a high of 25.4 ton/acre with 6810 BMR. Percent IVTD was not as high as in previous years, ranging from 73.6% to 76.6%. Possibly the lower % IVTD can be attributed to changing laboratories in 2011 for nutrient analyses. Two of the varieties, BMR Gold X and 84G62, have ranked in the top 25% the last three years.

Many producers are primarily concerned with yield and the ability to not lodge. Table 4 is a summary of varieties with yields of 23 ton/acre or greater. Of these 11 varieties, three had lodging scores greater than 20%, five were BMRs and four were PS.

Grain yield was collected only from those entries as requested by the seed companies (Table 5). Yield was obtained in November after a hard freeze and obtained by hand harvesting heads from 10-ft of row. All heads from the 10-ft of row were harvested, even if plants were lodged. All varieties were indexed to the average of the two grain sorghum varieties (84G62 and DKS 5367).

Table 2. 2011 Comparison of sorghum hybrids for agronomic characteristics, yield and nutrient composition.

Variety Information ¹⁾						Lodging, Height, Moisture and Forage Yield ²⁾				
Hybrid	Company	Type	Maturity	BMR	Male Sterile	Harvest Date	% Lodged	Ht. Ft.	% Moisture	Ton/ac, 65% Moist.
AF7401	Advanta	FS	L	Y	N	14-Oct	0.0 j	5.3 uv	71.7 e-k	17.6 k-o
XF7101 (X)	Advanta	FS	ME	Y	N	2-Sep	26.7 c-g	7.3 k-o	66.0 op	22.9 c-i
AF7301	Advanta	FS	ML	Y	Y	22-Sep	4.3 g-j	7.3 l-p	69.0 k-o	19.6 d-o
AR-B Sweet Choice BMR	AR-B Seeds, Inc	FS	M	Y	Y	9-Sep	8.3 e-j	7.6 j-n	73.0 b-i	18.1 i-o
AS781	AR-B Seeds, Inc	FS	ML	Y	N	21-Oct	0.0 j	5.0 v	69.7 j-n	22.0 c-k
BH 312 FBD	B-H Genetics	FS	ML	Y	N	14-Oct	0.0 j	5.0 v	70.3 h-l	20.7 c-n
BH 380 F	B-H Genetics	FS	ML	N	N	2-Sep	26.7 c-g	7.3 l-p	70.0 i-m	21.7 c-l
BH 390 F	B-H Genetics	FS	L	N	N	14-Oct	13.3 d-j	8.8 b-f	73.3 a-h	21.4 c-m
BH 304 FB	B-H Genetics	FS	ML	Y	Y	9-Sep	3.3 hij	7.3 k-o	71.7 e-k	20.2 d-n
6810 BMR	Coffey Forage Seeds, Inc.	FS	M	Y	Y	2-Sep	5.0 g-j	7.8 h-l	69.7 j-n	25.4 abc
Centurion BMR	Coffey Forage Seeds, Inc.	FS	M	Y	N	23-Sep	40.0 bc	7.2 l-p	70.0 i-m	15.0 o
Maxi Gain BMR	Coffey Forage Seeds, Inc.	SS	PS	Y	N	21-Oct	0.0 j	7.3 l-p	73.7 a-g	19.4 f-o
HS II	Coffey Forage Seeds, Inc.	FS	ME	N	N	19-Sep	11.7 e-j	8.3 e-h	66.0 op	21.6 c-l
HS IV	Coffey Forage Seeds, Inc.	FS	ME	N	N	19-Sep	15.3 d-j	8.7 c-f	67.0 m-p	20.1 d-n
DSS 73862	Drussel Seed & Supply, Inc.	FS	L	Y	N	14-Oct	0.0 j	4.8 vw	71.3 e-k	20.9 c-n
HP1010 BMR	Eastern Colorado Seeds, LCC	FS	ML	Y	Y	19-Sep	1.7 ij	7.1 m-p	67.7 l-p	17.8 j-o
HP95 BMR	Eastern Colorado Seeds, LCC	FS	M	Y	N	2-Sep	23.3 c-i	7.5 j-o	65.3 p	22.4 c-k
HP120 BMR	Eastern Colorado Seeds, LCC	FS	M	Y	N	14-Oct	0.0 j	5.0 v	70.7 g-l	19.6 e-o
BMR 108 Leafy	Forage First	FS	L	Y	N	14-Oct	0.0 j	5.0 v	69.7 j-n	19.7 d-o
BMR 105	Forage First	FS	ML	Y	Y	19-Sep	0.0 j	7.2 l-p	65.7 p	21.5 c-m
FS 5	Forage First	FS	M	N	N	2-Sep	8.3 e-j	7.5 j-o	71.0 f-k	21.1 c-m
XF 1101	Forage First	FS	ME	Y	N	2-Sep	53.3 b	7.2 l-p	59.3 qr	23.7 b-g
111381X	MMR Genetics Ltd	FS	L	N	N	21-Oct	0.0 j	6.7 pqr	72.3 d-j	23.4 b-h
110381X	MMR Genetics Ltd	FS	L	N	N	21-Oct	0.0 j	5.8 stu	71.3 e-k	24.5 a-e
36392X	MMR Genetics Ltd	FS	L	Y	Y	14-Oct	16.7 d-j	8.7 c-f	75.3 a-d	22.3 c-k
111310X	MMR Genetics Ltd	FS	L	N	N	6-Oct	1.0 ij	7.2 l-p	70.0 i-m	21.7 c-l
23392X	MMR Genetics Ltd	FS	ML	Y	N	2-Sep	30.0 cde	7.5 j-o	70.3 h-l	20.5 c-n
73366X	MMR Genetics Ltd	FS	ML	N	N	2-Sep	25.0 c-h	5.3 tuv	70.0 i-m	21.7 c-l
88366X	MMR Genetics Ltd	FS	ML	Y	N	2-Sep	1.7 ij	6.4 qrs	71.0 f-k	19.2 g-o
88392X	MMR Genetics Ltd	FS	ML	Y	N	2-Sep	26.7 c-g	6.2 rs	72.7 c-j	19.3 f-o
841 F	Pioneer Hibred Int	FS	ML	N	N	19-Sep	90.0 a	6.1 rs	59.0 qr	22.2 c-k
849 F	Pioneer Hibred Int	FS	L	N	N	2-Sep	1.7 ij	7.5 j-o	69.0 k-o	22.3 c-k
Bundle King BMR	Richardson Seeds, Ltd.	FS	L	Y	Y	14-Oct	8.3 e-j	8.5 d-g	73.7 a-g	16.5 mno
Dairy Master BMR	Richardson Seeds, Ltd.	FS	ML	Y	N	2-Sep	5.0 g-j	7.9 g-k	70.0 i-m	22.1 c-k
Pacesetter BMR	Richardson Seeds, Ltd.	FS	PS	Y	N	21-Oct	3.3 hij	8.8 b-f	76.3 a	23.5 b-h
Pacesetter BMR Red	Richardson Seeds, Ltd.	FS	PS	Y	N	21-Oct	28.3 c-f	9.1 bcd	76.0 ab	24.6 a-d
Silo 700D BMR	Richardson Seeds, Ltd.	FS	L	Y	N	14-Oct	0.0 j	6.0 s	72.3 d-j	21.1 c-n
9500	Richardson Seeds, Ltd.	FS	ML	N	N	19-Sep	0.0 j	5.3 tuv	56.7 r	22.7 c-j
Silo 700D	Richardson Seeds, Ltd.	FS	L	N	N	6-Oct	0.0 j	6.2 rs	69.0 k-o	20.5 c-n

Table 2. 2011 Comparison of sorghum hybrids for agronomic characteristics, yield and nutrient composition.

Variety Information ¹⁾						Lodging, Height, Moisture and Forage Yield ²⁾				
Hybrid	Company	Type	Maturity	BMR	Male Sterile	Harvest Date	% Lodged	Ht. Ft.	% Moisture	Ton/ac, 65% Moist.
Sweeter 'N Honery BMR	Richardson Seeds, Ltd.	SS	ME	Y	N	24-Aug	0.0 j	7.0 n-q	75.7 abc	16.1 no
Sweeter 'N Honey BMR Red	Richardson Seeds, Ltd.	SS	ME	Y	N	2-Sep	8.3 e-j	7.0 n-q	67.7 l-p	21.0 c-n
Great Scott BMR	Scott Seed Co.	FS	ML	Y	N	21-Oct	0.0 j	5.9 st	71.3 e-k	18.7 h-o
BMR Gold	Scott Seed Co.	FS	M	Y	N	2-Sep	6.7 f-j	7.3 l-p	70.7 g-l	20.2 d-n
BMR Gold X	Scott Seed Co.	FS	M	Y	Y	2-Sep	8.3 e-j	7.1 m-p	70.3 h-l	22.6 c-k
BMR Gold II	Scott Seed Co.	SS	M	Y	N	2-Sep	28.3 c-f	8.8 b-f	66.7 nop	17.7 j-o
Premium Stock LS	Scott Seed Co.	SS	PS	N	N	21-Oct	1.7 ij	9.3 b	74.3 a-e	20.9 c-n
Rush	Scott Seed Co.	FS	M	N	N	24-Aug	0.0 j	6.2 rs	73.3 a-h	16.8 l-o
Sugar Daddy	Scott Seed Co.	FS	M	N	N	2-Sep	8.3 e-j	7.6 j-n	70.0 i-m	22.0 c-k
Canex BMR 208	Sharp Bros Seed Co	FS	ME	Y	N	24-Aug	9.3 e-j	6.9 opq	74.0 a-f	17.9 i-o
Silex BMR 520	Sharp Bros Seed Co	FS	M	Y	N	14-Oct	0.0 j	5.1 v	70.0 i-m	22.6 c-j
NK300	Sorghum Partners, LLC	FS	ME	N	N	22-Sep	1.7 ij	6.0 s	61.0 q	28.8 a
Hikane II	Sorghum Partners, LLC	FS	ME	N	N	2-Sep	23.3 c-i	8.3 f-i	69.0 k-o	21.8 c-l
SS304	Sorghum Partners, LLC	FS	M	N	N	30-Sep	6.7 f-j	8.9 b-e	72.3 d-j	18.1 i-o
SS405	Sorghum Partners, LLC	FS	ML	N	N	6-Oct	4.3 g-j	10.3 a	70.3 h-l	23.3 c-h
SS506	Sorghum Partners, LLC	FS	L	N	N	14-Oct	6.7 f-j	10.0 a	74.3 a-e	21.7 c-l
1990	Sorghum Partners, LLC	FS	PS	N	N	21-Oct	35.0 bcd	9.0 bcd	73.3 a-h	28.3 ab
4Ever Green	Walter Moss Seed Co.	FS	PS	N	N	21-Oct	16.7 d-j	9.2 bc	76.0 ab	21.7 c-l
4Ever Green BMR	Walter Moss Seed Co.	FS	PS	Y	N	21-Oct	0.0 j	9.3 bc	75.7 abc	24.3 a-f
Mega Green	Walter Moss Seed Co.	SS	PS	N	N	21-Oct	6.7 f-j	8.8 b-f	74.3 a-e	20.9 c-n
Millennium BMR	Walter Moss Seed Co.	FS	85 Day	Y	N	2-Sep	20.0 c-j	7.7 i-m	69.7 j-n	22.3 c-k
Desperado BMR	Walter Moss Seed Co.	FS	80 Day	Y	N	6-Oct	0.0 j	6.0 s	72.3 d-j	21.2 c-m
F-18 BMR	Walter Moss Seed Co.	FS	100 Day	Y	Y	14-Oct	1.7 ij	8.0 g-j	73.3 a-h	19.0 g-o
SU2-LM BMR	Walter Moss Seed Co.	SS	100 Day	Y	N	14-Oct	6.7 f-j	8.3 f-i	74.0 a-f	17.8 j-o
84G62	Pioneer Hibred Int. Inc.	GS	ML	N	N	2-Sep	0.0 j	4.2 x	65.0 p	23.7 b-g
DKS 5367	Monsanto Co.	GS	ML	N	N	2-Sep	0.0 j	4.3 wx	65.7 p	21.2 c-m
Mean							10.5	7.2	70.3	21.1
CV							133.7	5.3	2.9	14.7

¹⁾ Variety information provided by seed companies. M. sterile entries were pollinated by other varieties. FS=Forage Sorghum, SS=Sorghum-Sudangrass, GS=grain sorghum.

²⁾ Means followed by the same letter do not significantly differ using LSD (P=0.05).

Table 2. 2011 Comparison of sorghum hybrids for agronomic characteristics, yield and nutrient composition.

Variety Information ¹⁾						Nutrient Composition & Calculations ²⁾					
Hybrid	Company	Type	Maturity	BMR	Male Sterile	% Crude Protein	% ADF	% NDF	% Lignin	% Starch	% C FAT
AF7401	Advanta	FS	L	Y	N	7.3 e-l	35.0 i-r	51.4 l-u	4.5 i-v	9.1 l-v	2.37 a-g
XF7101 (X)	Advanta	FS	ME	Y	N	8.4 b-e	33.8 m-w	49.0 p-A	4.4 l-w	14.8 e-m	2.02 l-t
AF7301	Advanta	FS	ML	Y	Y	8.0 c-i	34.0 m-w	49.3 o-A	4.7 g-t	11.4 i-s	2.36 a-h
AR-B Sweet Choice BMR	AR-B Seeds, Inc	FS	M	Y	Y	6.7 j-o	32.7 p-z	48.1 s-B	4.3 n-x	8.2 n-y	2.38 a-g
AS781	AR-B Seeds, Inc	FS	ML	Y	N	7.5 e-k	34.9 j-r	51.8 l-t	3.7 x	5.0 t-z	2.45 a-d
BH 312 FBD	B-H Genetics	FS	ML	Y	N	8.1 c-h	35.8 h-p	52.6 k-t	4.5 j-w	6.2 r-z	2.40 a-g
BH 380 F	B-H Genetics	FS	ML	N	N	6.9 h-n	36.6 f-n	53.4 j-s	5.0 d-j	13.0 g-p	1.61 xyz
BH 390 F	B-H Genetics	FS	L	N	N	5.2 qrs	37.0 f-m	54.6 h-o	5.3 c-f	5.1 s-z	1.93 m-v
BH 304 FB	B-H Genetics	FS	ML	Y	Y	8.4 b-e	36.8 f-n	54.1 h-q	4.3 l-w	6.9 p-z	2.18 f-m
6810 BMR	Coffey Forage Seeds, Inc.	FS	M	Y	Y	7.6 d-k	30.5 w-B	44.6 y-D	4.1 t-x	14.1 f-o	2.61 a
Centurion BMR	Coffey Forage Seeds, Inc.	FS	M	Y	N	6.7 j-o	38.0 d-j	55.7 g-n	4.4 l-w	7.7 o-z	2.10 h-p
Maxi Gain BMR	Coffey Forage Seeds, Inc.	SS	PS	Y	N	6.6 k-p	39.7 a-g	58.9 b-i	4.9 e-l	1.7 z	1.89 o-w
HS II	Coffey Forage Seeds, Inc.	FS	ME	N	N	5.6 o-s	34.1 l-v	49.9 o-y	5.1 d-h	12.7 g-q	2.10 h-p
HS IV	Coffey Forage Seeds, Inc.	FS	ME	N	N	5.0 qrs	34.8 j-s	50.9 m-w	4.7 g-s	9.8 k-u	2.15 g-o
DSS 73862	Drussel Seed & Supply, Inc.	FS	L	Y	N	7.1 f-m	36.1 h-p	53.3 j-s	4.5 k-w	7.1 p-z	2.42 a-f
HP1010 BMR	Eastern Colorado Seeds, LCC	FS	ML	Y	Y	6.9 h-n	34.5 k-t	50.0 o-y	4.7 f-q	10.3 j-t	2.41 a-f
HP95 BMR	Eastern Colorado Seeds, LCC	FS	M	Y	N	7.9 c-j	33.0 o-y	48.4 r-B	4.3 o-x	16.9 e-i	2.03 k-t
HP120 BMR	Eastern Colorado Seeds, LCC	FS	M	Y	N	7.4 e-k	34.5 k-t	50.9 m-w	4.1 s-x	8.2 n-y	2.44 a-e
BMR 108 Leafy	Forage First	FS	L	Y	N	8.0 c-i	36.8 f-n	54.0 h-q	4.2 o-x	5.2 s-z	2.29 d-k
BMR 105	Forage First	FS	ML	Y	Y	8.1 b-g	31.4 s-A	45.7 w-D	4.2 q-x	14.2 f-n	2.42 a-f
FS 5	Forage First	FS	M	N	N	7.0 g-m	35.8 h-p	52.0 l-t	5.0 d-i	12.0 g-r	1.86 p-x
XF 1101	Forage First	FS	ME	Y	N	9.6 a	29.6 y-B	42.3 CDE	4.1 s-x	25.6 abc	2.15 g-n
111381X	MMR Genetics Ltd	FS	L	N	N	5.8 m-s	37.5 e-l	57.5 c-k	5.1 d-g	2.4 xyz	1.80 r-x
110381X	MMR Genetics Ltd	FS	L	N	N	6.5 k-p	37.9 d-k	55.9 f-m	5.3 b-e	2.6 w-z	2.08 i-q
36392X	MMR Genetics Ltd	FS	L	Y	Y	5.1 qrs	40.0 a-f	61.3 a-f	4.8 e-q	2.4 xyz	2.05 j-r
111310X	MMR Genetics Ltd	FS	L	N	N	5.6 o-s	38.4 c-i	56.6 d-l	4.9 e-l	4.7 t-z	1.78 s-x
23392X	MMR Genetics Ltd	FS	ML	Y	N	5.9 m-r	33.4 n-x	50.3 n-x	4.4 l-w	12.8 g-q	2.19 e-l
73366X	MMR Genetics Ltd	FS	ML	N	N	8.5 a-e	30.8 v-B	44.0 A-E	4.2 o-x	23.3 bcd	2.06 j-q
88366X	MMR Genetics Ltd	FS	ML	Y	N	7.9 c-j	32.9 o-y	49.2 o-A	3.9 wx	15.4 e-l	2.32 c-i
88392X	MMR Genetics Ltd	FS	ML	Y	N	6.8 i-o	36.3 g-o	54.4 h-p	4.2 q-x	11.8 h-r	2.02 l-u
841 F	Pioneer Hibred Int	FS	ML	N	N	9.3 ab	31.8 q-A	45.8 v-D	4.6 g-t	24.6 bc	2.00 l-u
849 F	Pioneer Hibred Int	FS	L	N	N	7.7 c-k	33.8 m-w	48.8 q-A	5.1 d-h	18.2 d-g	1.68 v-y
Bundle King BMR	Richardson Seeds, Ltd.	FS	L	Y	Y	5.5 p-s	38.0 d-j	58.5 b-j	4.0 u-x	2.2 yz	2.04 k-s
Dairy Master BMR	Richardson Seeds, Ltd.	FS	ML	Y	N	7.0 g-m	33.5 n-x	49.7 o-z	4.3 m-x	16.6 e-j	2.30 d-j
Pacesetter BMR	Richardson Seeds, Ltd.	FS	PS	Y	N	5.1 qrs	40.7 a-e	63.9 ab	4.5 h-u	1.6 z	1.79 s-x
Pacesetter BMR Red	Richardson Seeds, Ltd.	FS	PS	Y	N	5.2 qrs	40.9 a-e	62.0 a-d	4.8 e-n	1.7 z	1.80 r-x
Silo 700D BMR	Richardson Seeds, Ltd.	FS	L	Y	N	6.5 k-p	36.8 f-n	56.3 e-m	4.4 l-w	2.9 v-z	2.29 d-k
9500	Richardson Seeds, Ltd.	FS	ML	N	N	8.1 b-g	31.0 u-B	44.2 A-E	4.7 g-t	26.2 abc	2.11 h-p
Silo 700D	Richardson Seeds, Ltd.	FS	L	N	N	6.7 j-o	37.9 d-k	56.1 e-m	5.1 d-i	8.6 m-x	1.66 wxy

Table 2. 2011 Comparison of sorghum hybrids for agronomic characteristics, yield and nutrient composition.

Variety Information ¹⁾						Nutrient Composition & Calculations ²⁾					
Hybrid	Company	Type	Maturity	BMR	Male Sterile	% Crude Protein	% ADF	% NDF	% Lignin	% Starch	% C FAT
Sweeter 'N Honery BMR	Richardson Seeds, Ltd.	SS	ME	Y	N	7.9 c-j	32.8 p-z	49.2 o-A	4.0 u-x	14.2 f-n	2.56 abc
Sweeter 'N Honey BMR Red	Richardson Seeds, Ltd.	SS	ME	Y	N	8.8 a-d	29.0 AB	41.6 DE	4.1 t-x	28.8 ab	2.30 c-j
Great Scott BMR	Scott Seed Co.	FS	ML	Y	N	7.4 e-l	34.7 j-s	52.1 k-t	4.1 r-x	5.1 s-z	2.18 f-m
BMR Gold	Scott Seed Co.	FS	M	Y	N	7.7 c-k	29.4 zAB	43.3 B-E	3.9 vwx	15.4 e-l	2.41 a-f
BMR Gold X	Scott Seed Co.	FS	M	Y	Y	7.9 c-j	30.9 v-B	44.9 x-D	4.3 l-w	15.8 e-k	2.36 a-h
BMR Gold II	Scott Seed Co.	SS	M	Y	N	8.2 b-f	35.3 i-q	50.1 o-y	5.1 d-g	16.8 e-i	1.88 p-w
Premium Stock LS	Scott Seed Co.	SS	PS	N	N	5.6 n-s	41.2 a-d	60.4 a-g	6.0 a	2.0 yz	1.49 yz
Rush	Scott Seed Co.	FS	M	N	N	8.5 a-e	29.6 y-B	43.0 B-E	4.1 u-x	17.9 d-h	2.59 ab
Sugar Daddy	Scott Seed Co.	FS	M	N	N	7.0 g-m	31.6 r-A	46.1 u-D	4.7 g-s	16.1 e-k	2.34 b-h
Canex BMR 208	Sharp Bros Seed Co	FS	ME	Y	N	7.7 c-k	32.1 q-A	47.7 t-C	4.0 u-x	14.1 f-n	2.51 a-d
Silex BMR 520	Sharp Bros Seed Co	FS	M	Y	N	7.4 e-l	35.0 i-r	51.4 l-u	4.4 l-w	10.0 k-t	2.26 d-l
NK300	Sorghum Partners, LLC	FS	ME	N	N	7.5 e-k	33.7 m-w	49.4 o-A	4.8 e-n	19.8 c-f	1.78 t-x
Hikane II	Sorghum Partners, LLC	FS	ME	N	N	7.4 e-l	31.1 t-A	44.3 z-D	4.8 e-p	20.9 cde	2.11 h-p
SS304	Sorghum Partners, LLC	FS	M	N	N	5.0 qrs	36.1 h-p	53.8 i-r	4.8 e-q	6.5 q-z	1.84 q-x
SS405	Sorghum Partners, LLC	FS	ML	N	N	4.6 s	41.5 abc	61.1 a-g	5.7 abc	3.6 u-z	1.39 zA
SS506	Sorghum Partners, LLC	FS	L	N	N	5.4 p-s	41.1 a-d	60.2 a-g	5.9 a	2.8 v-z	1.68 v-y
1990	Sorghum Partners, LLC	FS	PS	N	N	6.2 l-q	41.7 abc	61.4 a-e	5.5 a-d	2.3 xyz	1.71 v-y
4Ever Green	Walter Moss Seed Co.	FS	PS	N	N	5.7 n-s	41.6 abc	59.3 b-h	4.9 d-k	1.5 z	1.20 A
4Ever Green BMR	Walter Moss Seed Co.	FS	PS	Y	N	5.0 qrs	42.3 ab	65.0 a	4.8 e-o	1.6 z	1.91 n-w
Mega Green	Walter Moss Seed Co.	SS	PS	N	N	5.7 n-s	42.7 a	62.1 abc	5.8 ab	1.9 yz	1.46 yzA
Millennium BMR	Walter Moss Seed Co.	FS	85 Day	Y	N	6.5 k-p	34.5 k-u	51.3 l-v	4.2 p-x	12.5 g-r	2.31 c-j
Desperado BMR	Walter Moss Seed Co.	FS	80 Day	Y	N	6.6 k-p	37.0 f-m	56.0 e-m	4.9 e-m	9.0 m-w	2.11 h-p
F-18 BMR	Walter Moss Seed Co.	FS	100 Day	Y	Y	5.7 n-s	39.1 b-h	60.1 a-g	4.5 h-u	2.6 w-z	2.08 i-q
SU2-LM BMR	Walter Moss Seed Co.	SS	100 Day	Y	N	4.7 rs	39.9 a-f	60.2 a-g	5.1 d-g	2.5 xyz	1.76 u-x
84G62	Pioneer Hibred Int. Inc.	GS	ML	N	N	8.9 abc	27.5 B	38.8 E	4.1 r-x	31.5 a	2.15 g-n
DKS 5367	Monsanto Co.	GS	ML	N	N	8.8 a-d	30.0 x-B	42.0 DE	4.7 f-r	28.0 ab	2.07 i-q
Mean						6.9	35.4	52.2	4.62	10.86	2.08
CV						11.1	6.1	6.5	7.6	36.4	7.7

¹⁾ Variety information provided by seed companies. M. sterile entries were pollinated by other varieties. FS=Forage Sorghum, SS=Sorghum-Sudangrass, GS=grain sorghum.

²⁾ Means followed by the same letter do not significantly differ using LSD (P=0.05).

Table 2. 2011 Comparison of sorghum hybrids for agronomic characteristics, yield and nutrient composition.

Variety Information ¹⁾						Nutrient Composition & Calculations ²⁾					
Hybrid	Company	Type	Maturity	BMR	Male Sterile	% TDN	48 hr NDFD	48 hr IVTD	% Ca	% P	% Mg
AF7401	Advanta	FS	L	Y	N	61.1 f-p	47.6 a-e	73.1 b-j	0.30 a-g	0.20 g-p	0.20 a-l
XF7101 (X)	Advanta	FS	ME	Y	N	61.2 f-o	45.4 c-i	73.2 a-j	0.24 b-p	0.24 a-e	0.17 h-o
AF7301	Advanta	FS	ML	Y	Y	61.6 e-n	46.8 b-f	73.8 a-h	0.26 a-n	0.20 g-p	0.17 j-o
AR-B Sweet Choice BMR	AR-B Seeds, Inc	FS	M	Y	Y	63.0 c-i	47.4 a-e	74.7 a-f	0.21 g-q	0.17 n-u	0.14 o
AS781	AR-B Seeds, Inc	FS	ML	Y	N	61.2 f-p	51.2 a	74.7 a-f	0.22 d-q	0.21 e-m	0.16 k-o
BH 312 FBD	B-H Genetics	FS	ML	Y	N	59.9 k-t	47.2 a-e	72.2 d-l	0.30 a-e	0.21 d-l	0.19 c-o
BH 380 F	B-H Genetics	FS	ML	N	N	59.1 m-v	37.7 qrs	66.7 o-s	0.28 a-l	0.21 d-l	0.24 abc
BH 390 F	B-H Genetics	FS	L	N	N	60.5 g-r	40.8 k-r	67.7 n-r	0.26 a-n	0.14 u	0.20 b-m
BH 304 FB	B-H Genetics	FS	ML	Y	Y	59.3 m-u	46.1 b-g	70.8 g-n	0.26 a-n	0.21 e-m	0.17 h-o
6810 BMR	Coffey Forage Seeds, Inc.	FS	M	Y	Y	64.4 a-e	45.2 d-j	75.6 a-d	0.23 b-q	0.18 j-s	0.17 j-o
Centurion BMR	Coffey Forage Seeds, Inc.	FS	M	Y	N	59.7 l-t	46.0 b-h	69.9 i-p	0.21 e-q	0.22 b-j	0.15 l-o
Maxi Gain BMR	Coffey Forage Seeds, Inc.	SS	PS	Y	N	55.7 xyz	45.9 b-h	68.1 m-r	0.28 a-l	0.21 c-k	0.15 mno
HS II	Coffey Forage Seeds, Inc.	FS	ME	N	N	62.4 e-l	41.3 j-r	70.7 g-n	0.19 k-q	0.15 stu	0.17 h-o
HS IV	Coffey Forage Seeds, Inc.	FS	ME	N	N	62.0 e-m	42.0 h-o	70.5 h-o	0.15 pq	0.16 q-u	0.14 o
DSS 73862	Drussel Seed & Supply, Inc.	FS	L	Y	N	59.9 k-t	46.9 b-f	71.7 e-m	0.30 a-f	0.18 j-s	0.18 e-o
HP1010 BMR	Eastern Colorado Seeds, LCC	FS	ML	Y	Y	61.4 f-o	45.8 c-h	72.8 b-k	0.25 a-o	0.18 j-s	0.16 j-o
HP95 BMR	Eastern Colorado Seeds, LCC	FS	M	Y	N	62.7 d-k	44.1 e-k	73.0 b-j	0.22 d-q	0.22 a-i	0.17 h-o
HP120 BMR	Eastern Colorado Seeds, LCC	FS	M	Y	N	61.2 f-o	49.0 a-d	74.1 a-h	0.28 a-k	0.19 h-q	0.20 b-m
BMR 108 Leafy	Forage First	FS	L	Y	N	58.7 n-w	48.9 a-d	72.4 d-l	0.30 a-f	0.22 b-j	0.20 b-m
BMR 105	Forage First	FS	ML	Y	Y	64.0 a-f	48.0 a-e	76.2 abc	0.21 f-q	0.19 h-q	0.17 i-o
FS 5	Forage First	FS	M	N	N	60.7 g-r	39.6 l-s	68.6 l-q	0.22 d-q	0.20 g-p	0.20 b-n
XF 1101	Forage First	FS	ME	Y	N	65.4 a-d	45.6 c-h	77.0 a	0.22 c-q	0.24 a-d	0.19 c-o
111381X	MMR Genetics Ltd	FS	L	N	N	58.3 p-x	45.4 c-i	68.7 l-q	0.22 d-q	0.16 p-u	0.19 c-o
110381X	MMR Genetics Ltd	FS	L	N	N	57.7 r-y	43.0 f-l	68.2 m-r	0.34 a	0.17 n-u	0.22 a-h
36392X	MMR Genetics Ltd	FS	L	Y	Y	58.3 p-x	47.0 b-f	67.5 n-r	0.28 a-l	0.14 tu	0.23 a-f
111310X	MMR Genetics Ltd	FS	L	N	N	57.8 q-y	42.6 g-n	67.5 n-r	0.26 a-m	0.17 m-u	0.21 a-j
23392X	MMR Genetics Ltd	FS	ML	Y	N	63.4 c-g	44.5 e-k	72.1 d-l	0.19 j-q	0.16 r-u	0.19 c-o
73366X	MMR Genetics Ltd	FS	ML	N	N	63.1 c-h	42.8 g-m	74.8 a-f	0.20 h-q	0.25 a	0.20 b-m
88366X	MMR Genetics Ltd	FS	ML	Y	N	63.4 c-g	49.3 abc	75.1 a-e	0.15 q	0.22 a-i	0.18 g-o
88392X	MMR Genetics Ltd	FS	ML	Y	N	61.1 f-p	45.8 c-h	70.5 h-o	0.20 i-q	0.20 f-n	0.19 c-o
841 F	Pioneer Hibred Int	FS	ML	N	N	63.8 b-f	39.4 l-s	72.2 d-l	0.22 d-q	0.25 a-d	0.22 a-i
849 F	Pioneer Hibred Int	FS	L	N	N	61.1 f-p	37.3 rs	69.5 j-p	0.24 b-q	0.24 a-f	0.21 a-j
Bundle King BMR	Richardson Seeds, Ltd.	FS	L	Y	Y	60.1 j-t	49.8 ab	70.6 g-n	0.19 l-q	0.19 i-r	0.19 c-o
Dairy Master BMR	Richardson Seeds, Ltd.	FS	ML	Y	N	63.3 c-g	45.9 b-h	73.0 b-j	0.18 m-q	0.20 g-o	0.19 c-o
Pacesetter BMR	Richardson Seeds, Ltd.	FS	PS	Y	N	57.5 s-y	48.9 a-d	67.3 n-r	0.17 n-q	0.18 j-s	0.17 h-o
Pacesetter BMR Red	Richardson Seeds, Ltd.	FS	PS	Y	N	57.2 t-y	45.8 c-h	66.4 p-s	0.19 j-q	0.18 l-t	0.18 f-o
Silo 700D BMR	Richardson Seeds, Ltd.	FS	L	Y	N	60.1 i-s	48.8 a-d	71.2 f-n	0.30 a-f	0.16 r-u	0.24 abc
9500	Richardson Seeds, Ltd.	FS	ML	N	N	64.4 a-e	38.1 o-s	72.7 c-k	0.28 a-l	0.21 e-m	0.23 a-f
Silo 700D	Richardson Seeds, Ltd.	FS	L	N	N	57.6 s-y	42.5 g-n	67.7 n-r	0.28 a-j	0.20 f-n	0.24 a-d

Table 2. 2011 Comparison of sorghum hybrids for agronomic characteristics, yield and nutrient composition.

Variety Information ¹⁾						Nutrient Composition & Calculations ²⁾					
Hybrid	Company	Type	Maturity	BMR	Male Sterile	% TDN	48 hr NDFD	48 hr IVTD	% Ca	% P	% Mg
Sweeter 'N Honery BMR	Richardson Seeds, Ltd.	SS	ME	Y	N	62.7 d-k	46.3 b-g	73.6 a-i	0.21 g-q	0.24 a-e	0.20 b-n
Sweeter 'N Honey BMR Red	Richardson Seeds, Ltd.	SS	ME	Y	N	66.9 a	40.7 k-r	75.4 a-e	0.22 d-q	0.23 a-g	0.23 a-f
Great Scott BMR	Scott Seed Co.	FS	ML	Y	N	60.5 g-r	49.3 abc	73.6 a-i	0.28 a-j	0.19 i-s	0.18 f-o
BMR Gold	Scott Seed Co.	FS	M	Y	N	65.7 abc	45.9 b-h	76.6 ab	0.18 m-q	0.20 g-o	0.16 k-o
BMR Gold X	Scott Seed Co.	FS	M	Y	Y	63.3 c-g	43.0 f-l	74.4 a-g	0.32 ab	0.20 g-p	0.21 a-j
BMR Gold II	Scott Seed Co.	SS	M	Y	N	60.3 h-s	38.3 o-s	69.1 k-p	0.28 a-l	0.23 a-h	0.20 b-n
Premium Stock LS	Scott Seed Co.	SS	PS	N	N	54.9 yz	37.9 p-s	62.5 tu	0.22 c-q	0.19 i-s	0.19 c-o
Rush	Scott Seed Co.	FS	M	N	N	65.3 a-d	45.7 c-h	76.6 ab	0.16 opq	0.25 ab	0.15 no
Sugar Daddy	Scott Seed Co.	FS	M	N	N	64.0 b-f	40.0 l-s	72.2 d-l	0.23 b-q	0.18 j-s	0.21 a-k
Canex BMR 208	Sharp Bros Seed Co	FS	ME	Y	N	63.8 b-f	47.2 b-e	75.0 a-e	0.15 q	0.24 a-f	0.14 o
Silex BMR 520	Sharp Bros Seed Co	FS	M	Y	N	60.3 h-s	47.1 b-e	72.9 b-k	0.31 abc	0.21 e-m	0.21 a-j
NK300	Sorghum Partners, LLC	FS	ME	N	N	61.7 e-m	41.4 i-q	71.1 f-n	0.25 a-o	0.21 d-l	0.23 a-f
Hikane II	Sorghum Partners, LLC	FS	ME	N	N	63.9 b-f	38.6 n-s	72.8 b-k	0.28 a-l	0.19 h-q	0.23 a-g
SS304	Sorghum Partners, LLC	FS	M	N	N	60.7 g-q	41.9 h-p	68.8 l-q	0.27 a-m	0.16 p-u	0.21 a-j
SS405	Sorghum Partners, LLC	FS	ML	N	N	56.0 w-z	36.0 s	60.9 u	0.27 a-m	0.17 o-u	0.22 a-i
SS506	Sorghum Partners, LLC	FS	L	N	N	56.4 u-z	38.8 m-s	63.2 stu	0.22 d-q	0.18 l-t	0.18 f-o
1990	Sorghum Partners, LLC	FS	PS	N	N	54.9 yz	42.5 g-n	64.7 rst	0.29 a-i	0.18 k-s	0.20 a-l
4Ever Green	Walter Moss Seed Co.	FS	PS	N	N	54.1 z	47.5 a-e	68.8 l-q	0.15 q	0.21 c-k	0.16 j-o
4Ever Green BMR	Walter Moss Seed Co.	FS	PS	Y	N	56.4 v-z	46.2 b-g	65.0 q-t	0.20 i-q	0.17 n-u	0.19 d-o
Mega Green	Walter Moss Seed Co.	SS	PS	N	N	54.0 z	38.8 m-s	62.0 tu	0.22 d-q	0.21 e-m	0.18 f-o
Millennium BMR	Walter Moss Seed Co.	FS	85 Day	Y	N	63.0 c-j	45.5 c-h	72.1 d-l	0.16 opq	0.19 i-s	0.18 f-o
Desperado BMR	Walter Moss Seed Co.	FS	80 Day	Y	N	59.3 m-u	46.3 b-g	69.9 i-p	0.31 a-d	0.18 k-s	0.25 a
F-18 BMR	Walter Moss Seed Co.	FS	100 Day	Y	Y	58.5 o-x	49.4 abc	69.6 j-p	0.29 a-h	0.17 n-u	0.25 ab
SU2-LM BMR	Walter Moss Seed Co.	SS	100 Day	Y	N	57.5 s-y	44.7 e-k	66.7 o-s	0.23 b-q	0.16 q-u	0.21 a-j
84G62	Pioneer Hibred Int. Inc.	GS	ML	N	N	66.5 ab	38.8 m-s	76.3 abc	0.24 b-p	0.25 abc	0.23 a-e
DKS 5367	Monsanto Co.	GS	ML	N	N	63.7 b-f	38.7 n-s	74.3 a-h	0.27 a-m	0.24 a-e	0.23 a-f
Mean						60.7	44.2	70.9	0.24	0.20	0.19
CV						3.0	5.7	3.4	24.2	11.1	15.9

¹⁾ Variety information provided by seed companies. M. sterile entries were pollinated by other varieties. FS=Forage Sorghum, SS=Sorghum-Sudangrass, GS=grain sorghum.

²⁾ Means followed by the same letter do not significantly differ using LSD (P=0.05).

Table 2. 2011 Comparison of sorghum hybrids for agronomic characteristics, yield and nutrient composition.

Variety Information ¹⁾						Nutrient Composition & Calculations ²⁾					
Hybrid	Company	Type	Maturity	BMR	Male Sterile	% K	% S	Milk lbs/Tons	Rel. Forage Quality	Rel. Feed Value	kd, %/hr
AF7401	Advanta	FS	L	Y	N	1.41 h-r	0.11 d-j	1,980 a-j	115 f-r	112 j-q	1.94 a-g
XF7101 (X)	Advanta	FS	ME	Y	N	1.49 g-p	0.12 a-e	1,903 b-l	115 f-r	119 g-n	1.83 b-l
AF7301	Advanta	FS	ML	Y	Y	1.20 l-v	0.11 c-i	2,045 a-i	119 e-n	118 h-o	1.92 a-i
AR-B Sweet Choice BMR	AR-B Seeds, Inc	FS	M	Y	Y	1.18 m-v	0.10 g-m	1,985 a-j	126 b-j	123 d-k	1.98 a-f
AS781	AR-B Seeds, Inc	FS	ML	Y	N	1.75 b-j	0.12 b-g	2,169 a-f	119 e-n	111 k-r	2.05 ab
BH 312 FBD	B-H Genetics	FS	ML	Y	N	1.55 e-o	0.11 d-j	1,850 c-m	108 h-v	108 k-s	1.90 a-j
BH 380 F	B-H Genetics	FS	ML	N	N	1.43 h-r	0.11 d-j	1,790 d-m	86 w-E	106 k-u	1.36 stu
BH 390 F	B-H Genetics	FS	L	N	N	1.11 o-w	0.07 n	1,382 klm	92 t-C	103 n-w	1.51 p-t
BH 304 FB	B-H Genetics	FS	ML	Y	Y	1.56 e-o	0.12 a-f	1,913 b-l	100 l-z	104 m-v	1.76 e-o
6810 BMR	Coffey Forage Seeds, Inc.	FS	M	Y	Y	0.95 s-w	0.10 e-k	1,651 f-m	134 a-f	136 b-g	1.82 b-m
Centurion BMR	Coffey Forage Seeds, Inc.	FS	M	Y	N	1.81 a-i	0.11 d-j	2,132 a-h	97 o-A	99 p-x	1.72 g-p
Maxi Gain BMR	Coffey Forage Seeds, Inc.	SS	PS	Y	N	2.00 a-e	0.10 e-k	1,733 e-m	85 x-F	92 s-y	1.69 h-q
HS II	Coffey Forage Seeds, Inc.	FS	ME	N	N	0.85 vw	0.09 j-n	1,906 b-l	108 h-v	117 i-p	1.57 n-s
HS IV	Coffey Forage Seeds, Inc.	FS	ME	N	N	1.14 n-w	0.07 n	1,399 klm	105 j-y	113 j-q	1.57 n-s
DSS 73862	Drussel Seed & Supply, Inc.	FS	L	Y	N	1.30 j-v	0.11 d-j	2,071 a-i	106 i-x	107 k-t	1.82 b-m
HP1010 BMR	Eastern Colorado Seeds, LCC	FS	ML	Y	Y	1.01 q-w	0.09 i-n	1,753 d-m	115 f-r	116 i-p	1.80 c-n
HP95 BMR	Eastern Colorado Seeds, LCC	FS	M	Y	N	1.20 l-v	0.12 b-g	2,286 a-d	117 e-q	122 d-l	1.69 h-q
HP120 BMR	Eastern Colorado Seeds, LCC	FS	M	Y	N	1.38 i-s	0.11 b-h	2,250 a-e	118 e-p	114 j-q	1.96 a-g
BMR 108 Leafy	Forage First	FS	L	Y	N	1.73 b-j	0.12 a-e	2,056 a-i	106 i-x	104 l-v	1.93 a-h
BMR 105	Forage First	FS	ML	Y	Y	1.01 q-w	0.12 b-g	1,958 a-j	138 a-e	132 b-i	2.00 a-e
FS 5	Forage First	FS	M	N	N	1.36 i-s	0.10 e-k	2,061 a-i	97 p-A	110 k-r	1.46 q-u
XF 1101	Forage First	FS	ME	Y	N	0.95 s-w	0.14 a	2,414 ab	147 ab	145 abc	1.88 a-j
111381X	MMR Genetics Ltd	FS	L	N	N	1.62 c-m	0.09 i-n	1,740 e-m	92 s-C	97 q-y	1.78 d-n
110381X	MMR Genetics Ltd	FS	L	N	N	1.55 e-o	0.10 e-k	1,600 h-m	90 u-D	99 p-x	1.62 k-r
36392X	MMR Genetics Ltd	FS	L	Y	Y	1.53 f-p	0.09 j-n	2,024 a-i	87 v-E	88 v-y	1.80 c-n
111310X	MMR Genetics Ltd	FS	L	N	N	1.64 c-l	0.09 i-n	1,625 g-m	86 w-E	98 q-y	1.58 m-s
23392X	MMR Genetics Ltd	FS	ML	Y	N	0.95 s-w	0.08 k-n	2,088 a-i	114 f-s	116 i-p	1.76 d-o
73366X	MMR Genetics Ltd	FS	ML	N	N	1.33 j-u	0.13 abc	1,952 a-j	129 a-h	138 b-e	1.74 f-p
88366X	MMR Genetics Ltd	FS	ML	Y	N	1.49 g-p	0.12 a-e	2,483 a	127 a-i	120 e-n	2.09 a
88392X	MMR Genetics Ltd	FS	ML	Y	N	1.52 g-p	0.11 d-j	2,150 a-g	104 j-y	105 l-v	1.80 c-n
841 F	Pioneer Hibred Int	FS	ML	N	N	1.09 p-w	0.14 ab	1,766 d-m	120 d-m	132 b-i	1.53 o-t
849 F	Pioneer Hibred Int	FS	L	N	N	1.53 f-p	0.12 a-e	1,814 c-m	100 l-z	119 f-n	1.38 r-u
Bundle King BMR	Richardson Seeds, Ltd.	FS	L	Y	Y	2.07 abc	0.09 j-n	2,031 a-i	99 l-z	94 r-y	2.01 a-d
Dairy Master BMR	Richardson Seeds, Ltd.	FS	ML	Y	N	1.21 l-v	0.10 f-l	1,838 c-m	121 d-l	120 d-n	1.88 a-j
Pacesetter BMR	Richardson Seeds, Ltd.	FS	PS	Y	N	2.10 ab	0.08 mn	1,921 b-k	85 x-F	83 xy	1.85 a-k
Pacesetter BMR Red	Richardson Seeds, Ltd.	FS	PS	Y	N	2.06 a-d	0.08 lmn	1,730 e-m	82 z-F	86 wxy	1.69 h-q
Silo 700D BMR	Richardson Seeds, Ltd.	FS	L	Y	N	1.60 d-m	0.10 e-k	2,093 a-i	103 k-z	100 p-x	1.96 a-g
9500	Richardson Seeds, Ltd.	FS	ML	N	N	0.69 w	0.13 abc	1,844 c-m	122 c-k	137 b-f	1.47 q-u
Silo 700D	Richardson Seeds, Ltd.	FS	L	N	N	1.67 b-k	0.11 c-i	1,920 b-k	88 v-D	100 p-x	1.59 l-s

Table 2. 2011 Comparison of sorghum hybrids for agronomic characteristics, yield and nutrient composition.

Variety Information ¹⁾						Nutrient Composition & Calculations ²⁾					
Hybrid	Company	Type	Maturity	BMR	Male Sterile	% K	% S	Milk lbs/Tons	Rel. Forage Quality	Rel. Feed Value	kd, %/hr
Sweeter 'N Honery BMR	Richardson Seeds, Ltd.	SS	ME	Y	N	1.45 h-q	0.11 c-i	2,344 abc	119 e-n	121 d-m	1.89 a-j
Sweeter 'N Honey BMR Red	Richardson Seeds, Ltd.	SS	ME	Y	N	0.88 uvw	0.12 a-e	2,108 a-i	141 a-d	148 ab	1.67 i-q
Great Scott BMR	Scott Seed Co.	FS	ML	Y	N	1.54 f-p	0.10 e-k	1,866 c-m	114 f-r	111 k-r	2.04 abc
BMR Gold	Scott Seed Co.	FS	M	Y	N	1.13 n-w	0.10 e-k	1,871 c-m	143 abc	142 bc	1.96 a-g
BMR Gold X	Scott Seed Co.	FS	M	Y	Y	1.01 q-w	0.10 f-l	1,675 f-m	127 a-i	135 b-h	1.74 f-p
BMR Gold II	Scott Seed Co.	SS	M	Y	N	1.13 n-w	0.11 c-i	2,034 a-i	98 n-A	114 j-q	1.42 r-u
Premium Stock LS	Scott Seed Co.	SS	PS	N	N	1.80 a-i	0.10 g-m	1,378 lm	68 DEF	88 v-y	1.31 tu
Rush	Scott Seed Co.	FS	M	N	N	1.34 j-t	0.11 b-h	2,014 a-i	144 abc	143 bc	1.96 a-g
Sugar Daddy	Scott Seed Co.	FS	M	N	N	0.95 s-w	0.09 h-n	1,878 b-m	119 e-o	130 c-j	1.52 o-t
Canex BMR 208	Sharp Bros Seed Co	FS	ME	Y	N	1.53 f-p	0.11 d-j	2,226 a-e	132 a-g	129 c-j	2.00 a-e
Silex BMR 520	Sharp Bros Seed Co	FS	M	Y	N	1.43 h-r	0.10 e-k	2,057 a-i	111 g-u	112 j-q	1.92 a-i
NK300	Sorghum Partners, LLC	FS	ME	N	N	1.17 m-v	0.10 e-k	2,136 a-h	108 h-w	118 g-n	1.60 l-s
Hikane II	Sorghum Partners, LLC	FS	ME	N	N	0.98 r-w	0.10 e-k	2,159 a-g	124 c-k	138 bcd	1.51 p-t
SS304	Sorghum Partners, LLC	FS	M	N	N	1.56 e-o	0.08 k-n	1,681 f-m	95 q-B	105 l-v	1.58 m-s
SS405	Sorghum Partners, LLC	FS	ML	N	N	1.51 g-p	0.08 lmn	1,353 m	64 F	86 wxy	1.23 u
SS506	Sorghum Partners, LLC	FS	L	N	N	1.58 e-n	0.09 j-n	1,583 i-m	72 C-F	88 u-y	1.36 stu
1990	Sorghum Partners, LLC	FS	PS	N	N	1.92 a-g	0.11 d-j	1,668 f-m	74 B-F	86 wxy	1.52 o-t
4Ever Green	Walter Moss Seed Co.	FS	PS	N	N	2.25 a	0.07 n	1,599 h-m	85 x-F	89 t-y	1.82 b-m
4Ever Green BMR	Walter Moss Seed Co.	FS	PS	Y	N	1.98 a-f	0.08 k-n	1,896 b-l	76 A-F	80 y	1.67 i-q
Mega Green	Walter Moss Seed Co.	SS	PS	N	N	2.07 abc	0.10 g-m	1,465 j-m	65 EF	84 xy	1.36 stu
Millennium BMR	Walter Moss Seed Co.	FS	85 Day	Y	N	1.22 k-v	0.10 g-m	2,269 a-e	112 g-t	113 j-q	1.81 b-n
Desperado BMR	Walter Moss Seed Co.	FS	80 Day	Y	N	1.46 h-q	0.10 f-l	2,110 a-i	98 m-z	100 o-x	1.81 b-n
F-18 BMR	Walter Moss Seed Co.	FS	100 Day	Y	Y	1.85 a-h	0.09 h-n	2,008 a-i	94 r-C	90 t-y	1.95 a-g
SU2-LM BMR	Walter Moss Seed Co.	SS	100 Day	Y	N	1.65 b-l	0.08 lmn	1,898 b-l	83 y-F	89 t-y	1.67 j-q
84G62	Pioneer Hibred Int. Inc.	GS	ML	N	N	0.89 t-w	0.13 a-d	1,911 b-l	148 a	162 a	1.60 l-s
DKS 5367	Monsanto Co.	GS	ML	N	N	0.95 s-w	0.13 ab	2,002 a-j	130 a-g	146 abc	1.53 o-t
Mean						1.42	0.10	1,915	106.8	112.2	1.73
CV						19.9	13.1	17.4	12.6	9.9	8.9

¹⁾ Variety information provided by seed companies. M. sterile entries were pollinated by other varieties. FS=Forage Sorghum, SS=Sorghum-Sudangrass, GS=grain sorghum.

²⁾ Means followed by the same letter do not significantly differ using LSD (P=0.05).

Table 3. Top 25% of varieties in the 2011 trial based on % IVTD, standability and yield.¹⁾

Hybrid	Company	Type	Maturity	BMR	Male Sterile	% Lodged	Ton/ac, 65% Moist.	% Crude Protein	48 hr IVTD	Rel. Forage Quality
Rush	Scott Seed Co.	FS	M	N	N	0.0	16.8	8.5	76.6	144
BMR Gold	Scott Seed Co.	FS	M	Y	N	6.7	20.2	7.7	76.6	143
P 84G62	Pioneer Hibred Seed	GS	ML	N	N	0.0	23.7	8.9	76.3	148
BMR 105	Forage First	FS	ML	Y	Y	0.0	21.5	8.1	76.2	138
6810 BMR	Coffey Forage Seeds, Inc.	FS	M	Y	Y	5.0	25.4	7.6	75.6	134
Sweeter 'N Honey BMR Red	Richardson Seeds, Ltd.	SS	ME	Y	N	8.3	21.0	8.8	75.4	141
88366X	MMR Genetics Ltd	FS	ML	Y	N	1.7	19.2	7.9	75.1	127
Canex BMR 208	Sharp Bros Seed Co	FS	ME	Y	N	9.3	17.9	7.7	75.0	132
AR-B Sweet Choice BMR	AR-B Seeds, Inc	FS	M	Y	Y	8.3	18.1	6.7	74.7	126
AS781	AR-B Seeds, Inc	FS	ML	Y	N	0.0	22.0	7.5	74.7	119
BMR Gold X	Scott Seed Co.	FS	M	Y	Y	8.3	22.6	7.9	74.4	127
DKS 5367	Monsanto Co.	GS	ML	N	N	0.0	21.2	8.8	74.3	130
HP120 BMR	Eastern Colorado Seeds	FS	M	Y	N	0.0	19.6	7.4	74.1	118
AF7301	Advanta	FS	ML	Y	Y	4.3	19.6	8.0	73.8	119
Sweeter 'N Honery BMR	Richardson Seeds, Ltd.	SS	ME	Y	N	0.0	16.1	7.9	73.6	119
Great Scott BMR	Scott Seed Co.	FS	ML	Y	N	0.0	18.7	7.4	73.6	114

¹⁾ The top 25% list was derived by taking those varieties with the highest % IVTD (did not differ statistically at P = 0.05) and eliminating those varieties that lodged more than 20%. The remaining 16 varieties with the highest yield were then selected.

Table 4. Top yielding varieties that yielded over 23 ton/acre.

Hybrid	Company	Type	Maturity	BMR	Harvest Date	% Lodged	% Moist.	Ton/ac, 65% Moist.	48 hr IVTD
NK300	Sorghum Partners, LLC	FS	ME	N	21-Sep	1.7	61.0	28.8	71.1
1990	Sorghum Partners, LLC	FS	PS	N	20-Oct	35.0	73.3	28.3	64.7
6810 BMR	Coffey Forage Seeds, Inc.	FS	M	Y	1-Sep	5.0	69.7	25.4	75.6
Pacesetter BMR Red	Richardson Seeds, Ltd.	FS	PS	Y	20-Oct	28.3	76.0	24.6	66.4
110381X	MMR Genetics Ltd	FS	L	N	20-Oct	0.0	71.3	24.5	68.2
4 Ever Green BMR	Walter Moss Seed Co.	FS	PS	Y	20-Oct	0.0	75.7	24.3	65.0
84G62	Pioneer Hi-Bred Int. Inc.	GS	ML	N	1-Sep	0.0	65.0	23.7	76.3
XF 1101	Forage First	FS	ME	Y	1-Sep	53.3	59.3	23.7	77.0
Pacesetter BMR	Richardson Seeds, Ltd.	FS	PS	Y	20-Oct	3.3	76.3	23.5	67.3
111381X	MMR Genetics Ltd	FS	L	N	20-Oct	0.0	72.3	23.4	68.7
SS405	Sorghum Partners, LLC	FS	ML	N	5-Oct	4.3	70.3	23.3	60.9

Table 5. Grain yield was collected from selected varieties at the request of the seed companies.

Hybrid	Company	Type	BMR	% Lodged	Ht. ft.	Grain Yield, lb/ac	Yield as a % of the AVG of Grain Sorghum Varieties*
84G62	Pioneer Hi-Bred Int. Inc.	GS	N	0.0	4.2	6,796	104
DKS 5367	Monsanto Co.	GS	N	0.0	4.3	6,217	96
73366X	MMR Genetics Ltd	FS	N	25.0	5.3	4,925	76
9500	Richardson Seeds, Ltd.	FS	N	0.0	5.3	4,777	73
Rush	Scott Seed Co.	FS	N	0.0	6.2	4,629	71
Silo 700D	Richardson Seeds, Ltd.	FS	N	0.0	6.2	4,534	70
88392X	MMR Genetics Ltd	FS	Y	26.7	6.2	4,168	64
NK300	Sorghum Partners, LLC	FS	N	1.7	6.0	3,771	58
XF 1101	Forage First	FS	Y	53.3	7.2	3,051	47
88366X	MMR Genetics Ltd	FS	Y	1.7	6.4	2,630	40
Canex BMR 208	Sharp Bros Seed Co	FS	Y	9.3	6.9	2,354	36
BMR Gold	Scott Seed Co.	FS	Y	6.7	7.3	1,975	30
Sweeter 'N Honey BMR Red	Richardson Seeds, Ltd.	SS	Y	8.3	7.0	1,968	30
Sweeter 'N Honery BMR	Richardson Seeds, Ltd.	SS	Y	0.0	7.0	1,911	29
23392X	MMR Genetics Ltd	FS	Y	30.0	7.5	1,847	28
HS II	Coffey Forage Seeds, Inc.	FS	N	11.7	8.3	1,804	28
FS 5	Forage First	FS	N	8.3	7.5	1,653	25
Hikane II	Sorghum Partners, LLC	FS	N	23.3	8.3	1,630	25
Centurion BMR	Coffey Forage Seeds, Inc.	FS	Y	40.0	7.2	1,622	25
Sugar Daddy	Scott Seed Co.	FS	N	8.3	7.6	1,512	23
HP120 BMR	Eastern Colorado Seeds	FS	Y	0.0	5.0	1,463	22
Silex BMR 520	Sharp Bros Seed Co	FS	Y	0.0	5.1	1,410	22
BMR 108 Leafy	Forage First	FS	Y	0.0	5.0	1,382	21
SS304	Sorghum Partners, LLC	FS	N	6.7	8.9	1,219	19
DSS 73862	Drussel Seed & Supply, Inc.	FS	Y	0.0	4.8	1,138	17
HS IV	Coffey Forage Seeds, Inc.	FS	N	15.3	8.7	1,044	16
Dairy Master BMR	Richardson Seeds, Ltd.	FS	Y	5.0	7.9	1,016	16
111310X	MMR Genetics Ltd	FS	N	1.0	7.2	952	15
HP95 BMR	Eastern Colorado Seeds	FS	Y	23.3	7.5	607	9
BMR 105	Forage First	FS	Y	0.0	7.2	586	9
SS405	Sorghum Partners, LLC	FS	N	4.3	10.3	522	8
Silo 700D BMR	Richardson Seeds, Ltd.	FS	Y	0.0	6.0	514	8
SS506	Sorghum Partners, LLC	FS	N	6.7	10.0	292	4
Great Scott BMR	Scott Seed Co.	FS	Y	0.0	5.9	166	3
111381X	MMR Genetics Ltd	FS	N	0.0	6.7	118	2
36392X	MMR Genetics Ltd	FS	Y	16.7	8.7	84	1
110381X	MMR Genetics Ltd	FS	N	0.0	5.8	0	0
Bundle King BMR	Richardson Seeds, Ltd.	FS	Y	8.3	8.5	0	0

* Yield as a percent of the average of Pioneer 84G62 and Dekalb 5367.