The Agriculture Program
The Texas A&M University System

Texas Panhandle Sorghum Hay Trial – 2007

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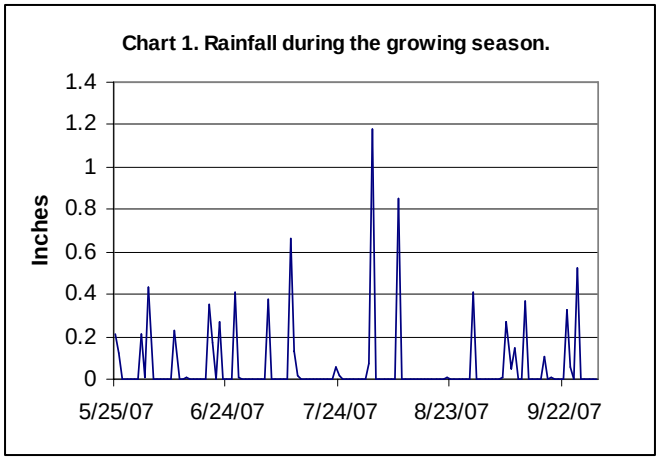
Texas Cooperative Extension and Texas Agricultural Experiment Station

Introduction

A sorghum hay trial was initiated in 2007. The trial consisted of 29 entries of sorghum/sudangrass, sudangrass, forage sorghum, and millet. Entries also included hybrids with the brown midrib (BMR) and photoperiod sensitive (PS) traits. The trial was irrigated once just prior to planting, and again immediately after the first cutting. A total of two cuttings were made, with the first cutting occurring 60 days after planting and the second cutting when each hybrid was 50% headed. Samples from the first harvest were tested for nutrient and mineral composition.

Methods and Materials

The trial was made up of 29 hybrids provided by seed companies on a per fee basis. The hybrids were planted in a randomized block design in two 25-ft row plots, on 30-inch raised beds. In order to obtain a uniform stand, planting was achieved with John Deere Max-emerge II 30-inch row spaced planter. 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. Plots were irrigated prior to planting with 4.7 inches of water and again immediately after the first cutting with 3.6 inches. Rainfall totaled 8.1 inches during the growing season (May 25 – Oct. 1) (Chart 1). All hybrids were harvested on July 31, 60 days after planting with a flail mower and weigh wagon. A sub-sample was collected from each yield sample, air dried, and sent to Dairy One Laboratory, Ithaca, NY for analyses. A second subsample was weighed, oven dried, and weighed again to determine moisture percent at harvest. In order to maximize tonnage, the second cutting was made when each hybrid was approximately 50% headed. Harvest dates ranged from Sep 18th to Oct 17th. PS hybrids were harvested on Oct 17th. The second cutting



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was achieved by hand harvesting 10-ft of one row of each plot. A subsample of 4 whole plants were collected, chopped, weighed and dried to determine moisture percent at harvest.

Other cultural practices and study information are listed below:

Trial Location:	Bush farm located one mile north of Bushland, TX
Cooperator:	Texas Agricultural Experiment Station
Previous Crop:	Wheat
Soil Type:	Pullman Clay Loam, pH = 7.4
Plot Size:	Two, 30 inch rows by 25 ft
Replications:	3
Study Design:	Randomized complete block
Planting Date:	May 30, 2007
Planting Rate:	120,000 seed/acre
Seed Method:	John Deere Max-emerge Planter
Fertilizer:	170 lbs N. No P needed based on soil test for a 9 dry ton yield
Herbicide:	One lb/acre atrazine applied immediately after planting
Irrigation:	Pre-irrigation – 4.7 inches. After first cutting on Aug. 7th – 3.6 inches

Nutrient analyses:

Crude Protein:	6.25 * % 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
NEl:	Estimate of Net Energy for lactation
NEm:	Estimate of Net Energy for maintenance
NEg:	Estimate of Net Energy for gain
IVTD:	In Vitro True Digestibility; positively related to energy availability
NDFD:	Neutral Detergent Fiber Digestibility, digestible NDF, %: This is a measure of fiber digestibility that is determined from the IVTD analysis.
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 an 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, the better the quality.
Milk lbs/ton:	A projection of potential milk yield per ton of forage dry matter.

Results and Discussion

A summary of yield and nutrient composition are reported in Table 1. Entries were grouped by BMR and PS type. The first cutting was made on July 31st, 60 days after planting. At the time of harvest, average moisture content was 67%. This is somewhat lower than expected given the growth stage of many of the entries. However, moisture stress was present throughout the trial likely leading to the lower than expected plant moisture content. Average yield of the BMR entries was 3.23 ton/Ac. This was 14% lower than the nonBMR entries at 3.66 ton/Ac. NonBMR PS entries yielded the lowest at 3.06 ton/Ac. Yield differences are also reflected in the plant heights. In contrast, digestibility based on % IVTD was highest with the BMR entries at 79.4% followed by the NonBMR PS entries at 77.0% and the NonBMR entries at 74.6%. It should be noted that the highest % IVTD was with Graze King BMR millet at 82.3% with a yield of 2.63 ton/Ac.

The second cutting was made when each entry reached 50% heading. The PS entries were harvested on Oct 17th. Although there were considerable yield differences between individual entries, average yield differences between the three types of sorghum were small, ranging from 4.79 ton/Ac with the PS entries to 5.04 ton/Ac with the nonBMRs. Nutrient composition was not determined on the second cutting. There was very little regrowth of the two millets after the first cutting. There was some regrowth of Graze King, but the yield was low and should probably be disregarded.

In Chart 2 the contribution of each cutting to total yield can be seen. Interestingly, three of the top four yielding entries were BMR. It is also clear from the chart that regrowth after the first cutting contributed much more too total yield with some entries than with others. Yield of the first cutting was not necessarily a good indicator of how well the second cutting would yield. Also, there were no PS entries among the top 7 entries in total yield. This is in contrast to what we usually see with a one time cutting for silage.

Table 1. Forage sorghum hay trial - 2007, TAMU Bushland, TX

						First Cutting (60 Days after Planting)									
Variety	Company	Type	Maturity	BMR	Male Sterile	Plts/Ac		Plant Height, Ft		% Moisture		% Headed		DM Yield, Ton/Ac	
Sweeter N Honey II	Richardson Seeds, Ltd.	Sorghum/Sudan	L	N	N	62,726	a-f	5.4	ef	59.8	jk	2	g	4.15	a
Grow-N-Graze Dream	Warner Seeds. Inc.	Sorghum/Sudan	L	N	N	63,888	a-e	5.5	def	61.3	ijk	2	g	4.09	ab
Sweetleaf II	NC+ Hybrids Inc	Sorghum/Sudan	M	N	Y	56,918	c-f	6.4	ab	65.48	d-i	98	a	2.86	a-f
979	Pioneer Hi-Bred Int., Inc.	Sorghum/Sudan	M	N	Y	63,307	a-f	5.8	cde	66.03	c-h	97	ab	3.79	abc
Grazex II	Sharp Bros. Seed Co.	Sorghum/Sudan	M	N	Y	80,150	ab	6.3	bc	65.94	c-h	98	a	3.38	a-e
Sordan 79	Sorghum Partners, Inc.	Sorghum/Sudan	M	N	N	75,504	abc	6.3	bc	66.76	c-g	80	b-e	3.67	a-d
NonBMR AVG						67,082		5.9		64		63		3.66	
Exp 2017x	Coffey Forage Seeds, Inc.	Sorghum/Sudan	M	Y	N	72,019	abc	5.1	fg	68.2	b-f	40	f	3.08	a-f
Exp 3017 x	Coffey Forage Seeds, Inc.	Sorghum/Sudan	M	Y	N	72,600	abc	4.0	jk	65.58	c-i	8	g	2.63	c-f
GWX7181Gbmr	Crosbyton Seed Co.	Sorghum/Sudan	M	Y	Y	58,080	b-f	5.6	de	64.57	e-i	42	f	3.14	a-f
GWX7191Gbmr	Crosbyton Seed Co.	Sorghum/Sudan	M	Y	Y	60,403	b-f	5.8	cde	69.6	bcd	93	abc	3.39	a-e
Sweeter N Honey BMR	Richardson Seeds, Ltd.	Sorghum/Sudan	M	Y	N	41,818	fg	4.5	hi	68.93	b-e	1	g	2.84	b-f
BMR Gold II	Scott Seed Co.	Sorghum/Sudan	M	Y	N	64,469	a-d	5.7	de	62.08	h-k	85	a-d	3.88	abc
Sweet King BMR	AR-B Seeds Inc.	Sorghum/Sudan	M	Y	N	78,989	abc	5.6	de	58.37	k	78	cde	3.87	abc
Grazex BMR 718	Sharp Bros. Seed Co.	Sorghum/Sudan	ME	Y	Y	65,630	a-d	5.8	cde	65.63	c-i	70	de	3.63	a-d
Grazex BMR 719	Sharp Bros. Seed Co.	Sorghum/Sudan	ME	Y	Y	83,635	a	6.0	bcd	66.73	c-g	90	abc	2.88	a-f
Grazex BMR x801	Sharp Bros. Seed Co.	Sorghum/Sudan	ME	Y	Y	77,246	abc	5.8	de	63.76	f-j	72	de	3.76	a-d
Grazex BMR x802	Sharp Bros. Seed Co.	Sorghum/Sudan	ME	Y	Y	74,342	abc	5.8	cde	65.57	c-i	65	e	2.91	a-f
Sucrosse 6R-BMR	Warner Seeds. Inc.	Sorghum/Sudan	ME	Y	N	60,984	b-f	4.3	ij	70.21	bcd	17	g	2.25	ef
BMR45S	NC+ Hybrids Inc	Sorgo/Sudan	M	Y	Y	59,822	b-f	5.8	de	67.72	c-f	95	abc	3.76	a-d
BMR AVG						66,926		5.4		66		58		3.23	
811F	Pioneer Hi-Bred Int., Inc.	Forage Sorghum	PS	N	N	76,085	abc	4.3	ij	66.86	c-g	0	g	3.05	a-f
Premium Stock LS	Scott Seed Co.	Sorghum/Sudan	PS	N	Y	75,504	abc	4.5	hi	69.27	b-e	0	g	3.01	a-f
Sordan Headless	Sorghum Partners, Inc.	Sorghum/Sudan	PS	N	N	69,696	a-d	5.1	fg	66.94	c-g	0	g	3.35	a-e
Sucrosse 9R-PS	Warner Seeds. Inc.	Sorghum/Sudan	PS	N	N	57,499	c-f	4.5	hi	67.33	c-g	0	g	3.25	a-f
Trudan Headless	Sorghum Partners, Inc.	Sudan	PS	N	N	42,398	efg	4.9	gh	67.43	c-g	0	g	2.66	c-f
NonBMR PS AVG						64,236		4.7		68		0		3.06	
Trudan Headless BMR	Sorghum Partners, Inc.	Sudan	PS	Y	N	48,787	d-g	4.5	hi	68.72	b-e	100	a	2.07	f
Trudan 8	Sorghum Partners, Inc.	Sudan	M	N	N	60,984	b-f	6.8	a	67.36	cig	100	a	2.47	def
Danny Boy BMR	DynaGro Seeds	Sorghum/Sudan	PS	Y	N	64,469	a-d	4.9	gh	62.83	g-j	2	g	3.68	a-d
Graze King BMR	Richardson Seeds, Ltd.	Millet	M	Y	N	35,429	g	3.8	k	72.24	b	0	g	2.93	a-f
Graze King	Richardson Seeds, Ltd.	Millet	M	N	N	35,429	g	4.1	ijk	77.87	a	10	g	2.33	ef
Others						NA		NA		NA		NA		NA	
Test Average						63,407		5.3		67		46		3.20	
LSD (P=.05)						18,018		0.423		3.858		15.4		1.075	
CV						17.4		4.92		3.55		20		20.44	
Treatment Prob(F)						0.0001		0.0001		0.0001		0.0001		0.0032	

	Second Cutting (50% Headed)							Nutrient Composition of First Cutting Only															
Variety	Harvest Date	% Moisture		DM Yield Ton/Ac		Total Yield Tons/Ac		% Crude Protien		% ADF		% NDF		% Lignin		% TDN		% IVTD		% NDFD	
Sweeter N Honey II	17-Oct	72	b-f	5.16	a-g	9.32	a-f	13.2	c-f	38.9	abc	63.7	a-d	4.80	a-f	59.3	c-f	76.3	c-g	62.7	c-g
Grow-N-Graze Dream	17-Oct	73	b-f	5.74	a-f	9.83	a-d	14.0	b-e	35.8	cde	62.6	a-e	3.77	e-i	60.3	a-f	75.7	d-h	61.0	e-h
Sweetleaf II	19-Sep	79	ab	3.80	fg	6.65	f-i	11.9	fg	40.0	a	66.1	a	5.10	abc	55.7	g	69.3	i	53.3	i
979	19-Sep	83	a	4.29	efg	8.08	b-h	13.1	d-g	37.4	a-e	62.1	cde	4.57	a-g	62.0	a-d	78.0	b-f	64.3	c-g
Grazex II	28-Sep	71	c-g	4.44	efg	7.82	c-h	12.9	d-g	39.8	ab	65.8	ab	5.03	a-d	58.7	d-g	73.0	gh	59.0	ghi
Sordan 79	5-Oct	66	fgh	6.80	abc	10.47	a	12.7	efg	38.3	abc	64.2	a-d	4.80	a-f	60.0	b-f	75.0	e-h	60.7	e-h
NonBMR AVG		74		5.04		8.70		13.0		38.4		64.1		4.68		59.3		74.6		60.2	
Exp 2017x	28-Sep	64	gh	4.77	c-g	7.84	b-j	13.9	b-e	36.6	a-e	63.3	a-d	3.00	i	62.0	a-d	79.3	a-d	67.3	a-e
Exp 3017 x	28-Sep	71	b-f	3.79	fg	6.42	hij	14.4	b-e	36.8	a-e	62.3	b-e	3.13	hi	62.0	a-d	79.3	a-d	67.0	a-e
GWX7181Gbmr	5-Oct	75	bcd	3.30	gh	6.44	hij	13.6	b-f	36.4	b-e	64.1	a-d	3.50	ghi	62.3	abc	80.0	abc	68.3	a-d
GWX7191Gbmr	28-Sep	74	bcd	4.17	fg	7.56	c-j	13.5	b-f	36.8	a-e	61.9	cde	3.90	c-i	62.3	abc	81.0	ab	69.3	abc
Sweeter N Honey BMR	5-Oct	72	b-f	2.89	gh	5.74	ijk	13.6	b-f	38.3	abc	63.9	a-d	3.50	ghi	62.0	a-d	82.7	a	72.7	ab
BMR Gold II	28-Sep	75	bc	3.92	fg	7.81	b-j	13.7	b-f	36.3	b-e	61.8	cde	3.80	d-i	60.7	a-f	77.0	b-g	63.0	c-g
Sweet King BMR	28-Sep	74	bcd	3.79	fg	7.66	c-j	13.6	b-f	34.6	de	59.6	ef	3.93	c-i	62.0	a-d	77.7	b-f	62.7	c-g
Grazex BMR 718	5-Oct	64	gh	6.51	a-e	10.14	abc	13.6	b-f	38.1	a-d	64.4	a-d	4.00	b-i	61.7	a-e	78.0	b-f	66.0	b-f
Grazex BMR 719	5-Oct	61	h	7.10	ab	9.98	a-d	13.1	d-g	35.8	cde	62.3	b-e	3.57	f-i	63.7	a	78.7	a-f	66.0	b-f
Grazex BMR x801	5-Oct	64	h	7.34	a	11.10	a	14.0	b-e	36.0	cde	62.7	a-e	3.43	ghi	63.3	ab	80.0	abc	67.3	a-e
Grazex BMR x802	28-Sep	67	d-h	6.70	a-d	9.61	a-f	13.5	b-f	37.5	a-e	62.1	b-e	4.50	a-g	60.3	a-f	75.7	d-h	61.0	e-h
Sucrosse 6R-BMR	5-Oct	67	d-h	4.96	b-g	7.20	e-j	13.5	b-f	36.9	a-e	63.5	a-d	3.50	ghi	62.3	abc	82.7	a	73.0	a
BMR45S	28-Sep	75	bcd	4.06	fg	7.83	b-j	13.5	b-f	35.4	cde	61.3	de	3.57	f-i	62.3	abc	79.7	a-d	66.7	a-e
BMR AVG		70		4.87		8.10		13.7		36.6		62.6		3.64		62.1		79.4		66.9	
811F	17-Oct	73	b-e	4.31	efg	7.36	d-j	14.2	b-e	36.6	a-e	65.2	abc	3.83	d-i	60.0	b-f	78.0	b-f	66.7	a-e
Premium Stock LS	17-Oct	74	bcd	5.76	a-f	8.77	a-h	14.7	bcd	36.5	a-e	63.0	a-e	3.90	c-i	61.0	a-f	78.7	a-f	66.3	a-e
Sordan Headless	17-Oct	75	bc	4.60	c-g	7.95	b-i	14.7	bcd	36.5	a-e	61.8	cde	4.47	a-g	59.7	c-f	77.0	b-g	62.0	d-h
Sucrosse 9R-PS	17-Oct	76	bc	4.31	efg	7.56	c-j	15.2	b	36.8	a-e	62.7	a-e	4.40	a-g	58.3	efg	74.7	fgh	59.3	f-i
Trudan Headless	17-Oct	72	b-f	4.97	b-g	7.63	c-j	14.1	b-e	37.8	a-d	63.2	a-e	4.30	a-h	60.0	b-f	76.7	c-g	63.0	c-g
NonBMR PS AVG		74		4.79		7.85		14.6		36.8		63.2		4.18		59.8		77.0		63.5	
Trudan Headless BMR	17-Oct	76	bc	3.10	gh	5.2	jk	14.3	b-e	36.3	b-e	63.0	a-e	3.67	e-i	62.3	abc	79.0	a-e	66.7	a-e
Trudan 8	28-Sep	72	b-f	4.51	d-g	7.0	f-j	11.5	g	37.4	a-e	64.2	a-d	4.87	a-e	58.0	fg	72.0	hi	56.0	hi
Danny Boy BMR	17-Oct	75	bc	3.54	fgh	7.2	e-j	15.0	bc	37.8	a-d	63.5	a-d	4.30	a-h	59.0	c-f	76.3	c-g	62.0	d-h
Graze King BMR	17-Oct							20.2	a	31.3	f	56.6	f	5.17	ab	59.3	c-f	82.3	a	69.3	abc
Graze King	28-Sep	67	e-h	1.54	h	3.9	k	19.9	a	34.1	ef	62.4	b-e	5.33	a	58.3	efg	77.7	b-f	64.3	c-g
Others		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Test Average	37,899	72		4.65		7.86		14.1		36.8		62.9		4.13		60.7		77.6		64.4	
LSD (P=.05)		6.049		1.893		2.245		1.5		2.9		3.029		1.019		2.8		3.5		5.616	
CV		5.17		24.93		17.49		6.6		4.8		2.95		15.12		2.8		2.7		5.34	
Treatment Prob(F)		0.0001		0.0001		0.0001		0.0001		0.0006		0.0004		0.0001		0.0001		0.0001		0.0001	

	Nutrient Composition of First Cutting Only																					
Variety	NEL Mcal/lb		NEM Mcal/lb		NEG Mcal/lb		Relative Feed Value		Relative Feed Quality		Milk lb/ton		% Ca		% P		%Mg		% K		% S		% Cl	
Sweeter N Honey II	0.51	b-e	0.53	c-f	0.28	c-g	86	cde	108	ghi	2,101	d-i	0.49	a-f	0.29	c-i	0.33	c-i	2.98	b-f	0.21	a-f	1.25	b-f
Grow-N-Graze Dream	0.53	a-e	0.55	a-f	0.29	a-g	91	bcd	112	c-i	2,113	c-i	0.45	c-f	0.30	c-g	0.29	ghi	3.29	bc	0.20	c-f	1.31	b-f
Sweetleaf II	0.46	f	0.47	g	0.22	h	81	e	99	i	1,903	i	0.46	c-f	0.25	ghi	0.29	ghi	2.28	h	0.21	a-f	1.19	def
979	0.55	ab	0.58	abc	0.32	abc	90	b-e	122	b-g	2,311	a-e	0.48	b-f	0.27	e-i	0.32	c-i	2.75	efg	0.20	c-f	1.05	def
Grazex II	0.49	ef	0.52	d-g	0.27	e-h	82	de	106	hi	2,065	e-i	0.55	a-e	0.25	hi	0.28	i	2.58	fgh	0.20	c-f	1.29	b-f
Sordan 79	0.51	b-e	0.54	b-f	0.28	c-g	86	cde	110	d-i	2,106	c-i	0.52	a-f	0.26	f-i	0.33	c-i	2.78	def	0.18	ef	1.19	def
NonBMR AVG	0.51		0.53		0.28		86		110		2,100		0.49		0.27		0.31		2.78		0.20		1.21	
Exp 2017x	0.54	a-d	0.57	a-d	0.32	a-d	89	b-e	116	b-h	2,190	a-h	0.51	a-f	0.29	c-h	0.32	c-i	3.20	b-e	0.20	b-f	1.19	def
Exp 3017 x	0.54	abc	0.58	abc	0.32	a-d	90	b-e	112	c-i	2,146	b-h	0.46	c-f	0.34	bc	0.35	b-f	3.29	bc	0.21	b-f	1.31	b-f
GWX7181Gbmr	0.53	a-e	0.58	abc	0.32	abc	88	b-e	122	b-g	2,274	a-f	0.48	b-f	0.29	c-h	0.33	c-i	3.07	b-e	0.19	c-f	1.24	b-f
GWX7191Gbmr	0.55	abc	0.58	abc	0.32	abc	91	bcd	126	bc	2,351	abc	0.45	c-f	0.30	c-g	0.34	c-i	2.90	c-f	0.22	a-e	1.33	b-e
Sweeter N Honey BMR	0.53	a-e	0.57	a-d	0.31	a-e	86	cde	124	b-f	2,351	abc	0.47	c-f	0.30	c-g	0.34	b-h	3.25	bcd	0.18	ef	1.11	def
BMR Gold II	0.53	a-e	0.56	a-f	0.30	a-g	91	bc	116	b-h	2,180	a-h	0.52	a-f	0.29	c-i	0.30	f-i	3.30	bc	0.19	def	1.00	f
Sweet King BMR	0.56	a	0.58	abc	0.32	abc	97	b	123	b-g	2,274	a-f	0.45	c-f	0.28	e-i	0.31	d-i	3.03	b-f	0.21	a-f	1.21	def
Grazex BMR 718	0.53	a-e	0.57	a-e	0.31	a-f	85	cde	115	b-h	2,198	a-h	0.40	ef	0.27	e-i	0.29	ghi	3.06	b-e	0.19	def	1.23	def
Grazex BMR 719	0.56	a	0.60	a	0.34	a	91	bc	127	abc	2,348	abc	0.42	def	0.28	d-i	0.30	f-i	2.93	b-f	0.18	ef	1.11	def
Grazex BMR x801	0.55	abc	0.59	ab	0.33	ab	91	bcd	125	bcd	2,330	a-d	0.47	c-f	0.30	c-g	0.32	c-i	3.22	bcd	0.18	def	1.06	def
Grazex BMR x802	0.53	a-e	0.56	a-f	0.30	a-g	89	b-e	113	c-i	2,161	a-h	0.50	a-f	0.29	c-h	0.33	c-i	2.95	b-f	0.22	a-e	1.35	bcd
Sucrosse 6R-BMR	0.54	a-d	0.58	abc	0.32	abc	88	b-e	130	ab	2,405	a	0.56	a-d	0.30	c-h	0.37	bcd	3.23	bcd	0.17	ef	1.23	c-f
BMR45S	0.55	ab	0.58	abc	0.32	abc	93	bc	125	b-e	2,308	a-e	0.38	f	0.28	d-i	0.32	c-i	3.10	b-e	0.20	c-f	1.10	def
BMR AVG	0.54		0.58		0.32		90		121		2,271		0.47		0.29		0.32		3.12		0.20		1.19	
811F	0.51	cde	0.54	b-f	0.29	b-g	86	cde	112	c-i	2,122	c-i	0.55	a-e	0.36	ab	0.37	b-e	3.37	b	0.24	abc	1.16	def
Premium Stock LS	0.53	a-e	0.56	a-f	0.30	a-g	89	b-e	116	b-h	2,203	a-h	0.54	a-e	0.32	b-e	0.35	b-f	3.31	bc	0.20	b-f	1.21	def
Sordan Headless	0.53	a-e	0.54	b-f	0.28	b-g	91	bc	109	f-i	2,083	e-i	0.47	c-f	0.32	b-e	0.36	b-e	3.24	bcd	0.21	a-f	1.26	b-f
Sucrosse 9R-PS	0.51	b-e	0.52	efg	0.26	fgh	90	b-e	105	hi	1,965	hi	0.64	a	0.31	c-f	0.31	e-i	3.20	b-e	0.20	c-f	1.54	bc
Trudan Headless	0.52	a-e	0.55	a-f	0.29	b-g	88	cde	109	f-i	2,107	c-i	0.49	a-f	0.29	c-i	0.34	c-i	3.02	b-f	0.20	c-f	1.08	def
NonBMR PS AVG	0.52		0.54		0.28		89		110		2,096		0.54		0.32		0.35		3.23		0.21		1.25	
Trudan Headless BMR	0.54	abc	0.58	abc	0.32	abc	90	b-e	119	b-h	2,242	a-g	0.59	abc	0.27	e-i	0.37	bc	3.01	b-f	0.18	def	1.28	b-f
Trudan 8	0.50	def	0.51	efg	0.26	gh	87	cde	110	e-i	2,073	e-i	0.38	f	0.24	i	0.28	hi	2.35	gh	0.16	f	1.02	ef
Danny Boy BMR	0.51	b-e	0.53	c-f	0.27	d-g	88	cde	104	hi	2,009	ghi	0.60	abc	0.34	bc	0.35	b-g	3.31	bc	0.23	a-d	1.34	bcd
Graze King BMR	0.55	abc	0.54	b-f	0.28	c-g	106	a	140	a	2,373	ab	0.62	ab	0.39	a	0.53	a	4.22	a	0.26	a	1.88	a
Graze King	0.51	cde	0.51	fg	0.26	gh	93	bc	116	b-h	2,051	f-i	0.63	ab	0.33	bcd	0.39	b	4.10	a	0.25	ab	1.54	b
Others	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Test Average	0.53		0.55		0.30		89		116		2,184		0.50		0.30		0.33		3.11		0.20		1.24	
LSD (P=.05)	0.038		0.045		0.04		7		12.331		202.1		0.126		0.042		0.047		0.384		0.041		0.254	
CV	4.37		4.96		8.31		5		6.5		5.67		15.39		8.62		8.52		7.54		12.5		12.52	
Treatment Prob(F)	0.0003		0.0001		0.0001		0.0001		0.0001		0.0001		0.0014		0.0001		0.0001		0.0001		0.0029		0.0001	

Chart 2. Yield contribution of each cutting to total ton/Ac.