

## **Four Year Summary (2008-2011) of Forage Sorghum Silage Variety Trials in the Texas Panhandle**

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Trials were conducted from 2008 to 2011 at the Texas AgriLife Research Station approximately 8 miles west of Amarillo. Only those varieties that were entered in the trials for at least three years are included. A complete summary of the results of each year can be found at <http://amarillo.tamu.edu>.

Each year all varieties were planted on 30-inch raised beds at a seeding rate of 100,000 seed/acre in late May. Nitrogen and phosphorus application rates varied each year depending on soil tests results. The trials were considered fully irrigated with water applied during the growing season by furrow. Beginning in August, each variety was checked weekly for maturity. Once a variety reached the soft dough stage, the variety was marked for harvest that week. Harvest of early maturing varieties usually began in late August or the first of September. Late maturing varieties, including the photoperiod sensitive (PS) varieties, were usually harvested in mid-October. All forage (silage) yields are reported at 65% moisture. Nutrient analyses were conducted by a commercial laboratory specializing in forages.

### **Results and Interpretation**

Since producers are typically paid based on yield, emphasis was placed on tons of silage produced compared to the annual test average rather than on the quality of the forage. However, quality is important and should not be ignored. Quality will be particularly important to dairies. High % neutral detergent fiber digestibility (NDFD) and % in-vitro true digestibility (IVTD) suggests higher forage quality. Estimated pounds of milk produced per ton of forage is also a good indicator of quality.

Average yield over the four year period was 21.5 ton/acre, ranging from 18.3 to 26.8 ton/acre (Table 1). Eighteen varieties consistently yielded above the annual test average at least 66% of the time. Of these varieties, five were photoperiod sensitive (PS). PS varieties typically have large diameter stalks and can be hard to dry down. In our trial it is not unusual for % moisture of PS varieties to be greater than 74% at harvest in October. If these varieties are grown % moisture should be taken into account.

Lodging is an important issue in sorghum silage production and can vary greatly from year to year depending on the conditions. Of the 18 varieties, six had lodging scores of greater than 15%. If these varieties are planted, producers should plant a lower seeding rate and make sure that the field is not over fertilized with nitrogen, as this will help prevent lodging. In addition, it is important that these varieties are harvested as soon as they reach the proper moisture (usually at soft dough stage). Delaying harvest past the optimum time can lead to increased lodging.

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Varieties that consistently yielded above the test mean with low lodging scores and were not PS varieties are listed below:

- AS781
- SS405
- 849 F
- 9500
- FS-5
- Millennium BMR
- BMR Gold X
- HiKane II

Two other varieties, Silo 700D and HP 95 BMR finished above the test mean in two of the four years tested.

**Table 1. Summary of yield and quality of forage sorghum varieties that were entered in at least 3 trials over the last 4 years (2008-2011).**

Hybrid	Company	Maturity	BMR	Male Sterile	Number of Trials	Lodging Range 2008-2011	Three or Four Year Average						% of Trials With Yield Above the Mean	
							% Lodging	Height Ft.	% Moist. at Harvest	Yield, Ton/acre	% NDFD	% IVTD		Milk lbs/Ton
4Ever Green	Walter Moss Seed Co.	PS	N	N	3	0-27	14.4	10.4	75.7	26.8	59.3	65.6	1,994	100
GW3072F	Advanta	M	N	N	3	8-97	46.3	6.1	62.3	25.5	64.0	67.0	2,319	100
NK 300	Sorghum Partners, LLC	ME	N	N	3	0-93	33.9	5.9	60.6	24.8	47.1	73.0	2,370	100
AS781	AR-B Seeds, Inc	ML	Y	N	3	0-23	8.9	5.5	66.2	22.9	66.8	72.0	2,342	100
SS405	Sorghum Partners, LLC	ML	N	N	3	4-15	8.1	10.5	66.2	21.5	44.7	68.0	1,900	100
849 F	Pioneer Hibred Int	L	N	N	4	0-2	0.8	7.7	69.7	22.6	56.7	69.9	2,571	75
9500	Richardson Seeds, Ltd.	ML	N	N	4	0-2	0.6	5.5	64.8	22.1	56.6	72.4	2,588	75
Pacesetter BMR	Richardson Seeds, Ltd.	PS	Y	N	4	0-28	9.2	9.1	73.7	21.6	63.2	70.7	2,377	75
Mega Green	Walter Moss Seed Co.	PS	N	N	3	0-23	10.0	10.3	73.3	24.1	56.7	63.9	2,126	66
1990	Sorghum Partners, LLC	PS	N	N	3	0-67	33.9	8.8	71.6	24.0	48.8	71.2	2,274	66
4Ever Green BMR	Walter Moss Seed Co.	PS	Y	N	3	0-2	0.6	9.8	74.6	23.8	62.4	67.2	2,393	66
Si-Gro H-44	Syngenta Seeds Inc	L	N	N	3	0-65	30.6	6.1	63.5	23.5	64.0	66.6	2,328	66
FS-5	Forage First	M	N	N	3	0-8	5.0	7.6	71.4	22.2	58.6	67.1	2,697	66
Super Sile 30	Triumph Seed Co., Inc	ML	N	N	3	7-60	25.0	7.6	66.6	21.8	66.7	69.1	2,388	66
Millennium BMR	Walter Moss Seed Co.	ML	Y	N	3	0-20	12.2	7.9	70.3	21.6	64.4	72.0	2,802	66
SS506	Sorghum Partners, LLC	L	N	N	3	7-50	21.1	10.5	68.7	21.4	46.9	70.3	2,213	66
BMR Gold X	Scott Seed Co.	M	Y	Y	3	0-10	7.2	7.3	70.8	21.4	64.1	74.6	2,670	66
Hikane II	Sorghum Partners, LLC	ME	N	N	3	0-23	10.8	7.6	69.8	20.8	49.8	79.4	2,724	66
Silo 700D	Richardson Seeds, Ltd.	L	N	N	4	0-32	9.2	6.6	68.6	21.9	58.8	69.5	2,399	50
Premium Stock LS	Scott Seed Co.	PS	N	N	4	0-78	21.2	9.3	71.1	21.6	57.5	68.0	2,347	50
HP 95 BMR	Eastern Colorado Seeds	M	Y	N	4	0-23	10.8	7.4	67.6	19.7	62.9	74.8	2,698	50
GW8528Fbmr	Advanta	M	Y	N	3	0-32	12.2	7.2	67.3	21.2	73.5	75.3	3,083	33
84G62	Pioneer Hibred Int. Inc.	ML	N	N	3	0	0.0	4.0	65.5	20.5	60.6	72.2	2,606	33
BMR 108 Leafy	Forage First	L	Y	N	3	0-48	16.7	5.5	65.1	20.0	64.1	70.6	2,461	33
6810 BMR	Coffey Forage Seeds, Inc.	M	Y	Y	4	0-5	2.7	7.3	70.7	21.6	65.6	76.8	2,624	25
Dairy Master BMR	Richardson Seeds, Ltd.	ML	Y	N	4	0-15	6.7	7.8	71.7	19.9	64.2	74.7	2,599	25
Bundle King BMR	Richardson Seeds, Ltd.	L	Y	Y	4	8-23	15.4	9.1	70.0	19.8	63.3	71.4	2,522	25
BMR Gold	Scott Seed Co.	M	Y	N	3	0-7	3.3	7.3	70.2	21.0	65.9	76.0	2,687	0
Canex BMR 403	Sharp Bros. Seed Co.	M	Y	Y	3	0-3	1.7	7.3	70.7	20.1	74.2	76.0	2,996	0
Sweeter 'N Honey BMR	Richardson Seeds, Ltd.	ME	Y	N	3	0-42	13.9	7.5	70.5	19.5	61.5	71.5	2,518	0
BMR Gold II	Scott Seed Co.	M	Y	N	3	11-28	22.8	8.5	69.7	18.9	57.7	68.3	2,559	0
Sweet Choice BMR	AR-B Seeds, Inc	M	Y	Y	3	0-23	10.5	7.3	70.5	18.4	64.4	73.7	2,594	0
HP 1010 BMR	Eastern Colorado Seeds, LCC	ML	Y	Y	4	2-27	8.9	7.3	70.7	18.4	63.1	75.4	2,570	0
Canex BMR 208	Sharp Bros Seed Co	ME	Y	N	4	0-9	5.0	7.0	71.4	18.3	64.3	74.9	2,811	0
<b>Mean</b>							<b>12.9</b>	<b>7.7</b>	<b>69.1</b>	<b>21.6</b>	<b>60.7</b>	<b>71.4</b>	<b>2504.4</b>	