BMR 100 Forage Sorghum

TECHNICAL DESCRIPTION

(Sorghum bicolor)

*** Significantly lower stem lignin concentration.**
*** Improved digestibility equals milk production of corn.**
*** Requires 1/3 less water than corn for same**

BMR 100 is a brown midrib hybrid forage sorghum type. The lignin content of the stem has been dramatically reduced which significantly improves digestibility by 40% over conventional forage sorghums. This improvement in digestibility allows BMR 100 Forage Sorghum to equal the milk production of corn. The reduced lignin content of the BMR 100 stems makes it more prone to lodging than conventional forage sorghums. Because of these weaker stems, BMR 100 should be planted at the recommended rates for your area and harvest should be done on time.

The water requirement of BMR 100 is 1/3 less than that required to produce an equivalent amount of corn. This high water use efficiency of BMR 100 makes it ideally suited where water is a major yield-limiting factor.

Disease/Insect/Nematode Ratings:

Downy Mildew:	T

Agronomic Traits:

Early Seedling Vigor:	Good
Growth Habit:	Upright with Large Head
Recovery after Cutting:	Fair
Maturity:	100 Days to Soft Dough
Uniformity:	Excellent
Plant Color:	Purple
Midrib Type:	Brown
Standability:	Fair

Planting Rates:

Bushel weight:		56 lbs.
Seeds per Pound:		14,000
Rate (Lbs.):	Dryland	Irrigated
Rows:	4 – 8	5 – 7
Broadcast:	4 – 9	6 – 9
Seeds/Sq. Ft.	2 – 4	3 – 7

Adaptation Ratings:

Photosynthetic Type:	Warm Season
Soil Temperature:	Warm (60° F)
Water Requirement:	Very Low

Crop Use Information:

Life Cycle:	Annual
Ease of Establishment:	Good
Shade Tolerance:	Poor - Fair
Drought Stress:	Excellent
Wet Soil:	Fair
Low pH Tolerance:	Moderate
Minimum pH:	6.0
Saline Soils (White Alkali):	Fair
Saline – Sodic Soils (Black Alkali):	Poor – Fair
Hay:	Fair
Silage:	Excellent
Continuous Grazing:	Do Not Graze
Rotational Grazing:	Do Not Graze
Palatability:	Excellent
Anti-Quality:	Prussic Acid and Nitrate

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Quality Data – BMR100 Forage Sorghum:

Effects of Diet on Lactation Performance of Dairy Cows Fed BMR 100 Forage Sorghum for 10 Weeks

Pounds of Milk/Day	Normal Sorghum	BMR 100 Sorghum	Corn
1996	52.26	55.35	53.80
1997	48.29	53.58	65.04
1998	44.76	66.37	58.21
3-Year Average	**48.44**	**58.43**	**59.01**
Intake of Feed/Day			
1996	44.98	55.79	50.94
1997	43.44	43.44	48.95
1998	52.26	55.34	54.69
3-Year Average	**46.89**	**51.52**	**51.53**
Economic Value			
Milk Value ($/cow/day)	$5.81	$7.01	$7.08
Milk Value ($/cow/lac.)	$1,772.00	$2,138.00	$2,159.00
Feed Cost	$2.28	$2.51	$2.67
Return Over Feed	$3.53	$4.50	$4.41
1 Ton of Feed	$224.19	$268.14	$263.36

BMR 100 Forage Sorghum Management and Production Guide:

Strengths

Highly digestible
40% greater IVTD over normal sorghum
33% less water required than corn
Equals corn in milk production
Good disease package

Seeding

Soil temperature should be at least 60° F.
BMR 100 is usually planted between April 10 and July 10.
Can be no tilled into the stubble of winter and spring crops.
Planting depth should be 1".
If planted in soils with pH greater than 7.5 to 8.0. Chlorosis can be a problem.
BMR 100 is an excellent companion with forage soybeans or black autrey cowpeas.

Harvest

BMR 100 is usually harvested 100 days after seeding.
Protein will decline as harvest is delayed, but energy will increase upon heading because of continued sugar formation in the sorghum stalks and leaves, and carbohydrate deposition in the developing grains.

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Avoiding Nitrate and Prussic Acid Poisoning from Sorghum:

Avoid large nitrogen applications prior to expected drought periods. Can increase prussic acid concentration for several weeks after application. Do not harvest drought-damaged plants within one to three weeks following a good rain. Do not green chop within seven days of a killing frost. Cut at a higher stubble height, nitrates tend to accumulate in the lower stalk. Wait one month before feeding silage to give prussic acid enough time to escape.

MANAGEMENT GUIDE

BMR 100

BMR 100 is a unique forage sorghum due to its low lignin content. This trait gives it a high level of digestibility, but requires different management practices than standard forage sorghums.

Most forage sorghums are planted at high plant populations to force the stems to be small. With the high level of digestibility of BMR 100, this is unnecessary. It has been found that the best yields, quality and standability come from the following plant populations:

Irrigated, in rows - from 60,000 to 80,000 plants per acre
Irrigated, drilled - from 70,000 to 100,000 plants per acre
Dryland, in rows - from 40,000 to 80,000 plants per acre (depending on rainfall in area)
Dryland, drilled - from 50,000 to 80,000 plants per acre (depending on rainfall)

There are also differences in the amount of nitrogen fertilizer that should be applied to BMR 100 as compared to standard forage sorghums. High levels of nitrogen fertility cause BMR 100 to grow much taller without adding additional tonnage. This increases the chances of lodging late in the season. Excessive nitrogen fertility can also increase the chance of nitrate accumulation in the plant under stressful conditions.

It is recommended that you do not use over 100 – 120 lbs of actual nitrogen per acre, this includes a combination of the actual application and the amount present in the soil. For best results always have a soil analysis performed prior to applying fertilizer.

BMR 100 reacts very favorably to irrigation applied early. This allows the plant to obtain its maximum forage quality. Irrigation late in the season (after boot) does little to increase tonnage and may increase the chance of lodging. The best quality and quickest drydown on BMR 100 is found when it is kept dry from bloom to harvest.

BMR 100 is best if harvested in late milk to early dough stage. This time frame is when quality and tonnage are at their maximum. At this stage the moisture content of the silage should be 65 to 70%. Allowing it to mature past this point will decrease quality and increase chances of lodging.

By following these management practices, it is possible to produce high yields of very high quality silage with minimum harvest problems.

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