

Texas Dairy Matters

Higher Education Supporting the Industry

SILAGE COMPARISONS

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Each year we are faced with uncertain weather. Will we have a drought? Will we have enough rain to grow corn? Or, will it be so wet we can't harvest our feed? And, now we are adding the high cost of grain to the equation. The question becomes, "What can producers do to plan for the changing dairy climate?"

It is time to re-evaluate forage crops that may be more heat and drought tolerant, yet provide an excellent energy source. Traditionally, corn silage has been viewed as the best forage energy source, but drought tolerance isn't one of its strengths. Recently, scientists began exploring brown mid-rib sorghum-sudangrass as an alternative crop for use in lactating dairy cow rations.

Some of the advantages to sorghum type silages include that they can be planted later in the year, which is good news when we have a late spring. They also require less water than corn, which is an advantage in drought years or whenever irrigation is required. Sorghum also has a high tonnage yield. Since it can be harvested multiple times a year, manure can actually be applied during the summer if need be, as well. In addition, pesticide usage may be reduced.

The biggest concern is whether the energy value in sorghum silage is high enough for our high producing cow lactations? The brown midrib sorghum silages are being investigated now because they typically have less lignin and the actual structure of the lignin differs making it more digestible.

A recent study from the Miner Institute in New York compared the lactation performance of mid-lactation cows fed corn silage at 35 or 45% of TMR dry matter to brown-midrib (bmr) sorghum silage at 35 or 45% of TMR dry matter. Dry matter intake was greatest for cows fed the corn silage diets, was least for the 45% bmr sorghum silage, and was intermediary with the 35%

bmr sorghum silage. Milk yield as measured by solids-corrected milk was similar among the diets; however, efficiency, as determined by solids corrected milk to dry matter intake, was 28% greater for cows consuming the bmr sorghum silage compared to the sorghum silage (Table 1).

Table 1: Performance data of cows fed diets containing brown midrib-sudangrass silage (bmrSS) or corn silage (CS) at either 35 or 45% of ration DM, where DMI=dry matter intake, FCM=fat corrected milk and SCM=solids corrected milk (adapted from Dann et al., 2008).

Item	Diet			
	35% bmrSS	45% bmrSS	35% CS	45% CS
DMI, lb/d	44.2	38.7	51.5	51.0
Milk Yield				
3.5% FCM, lb/d	66.9	62.5	71.9	68.0
SCM, lb/d	60.3	55.9	61.6	58.1
Efficiency, lb/lb				
3.5% FCM:DMI	1.52	1.62	1.32	1.26
SCM:DMI	1.41	1.49	1.25	1.17

Although the results are promising, this was a trial on mid-lactation cows producing about 65 lb of milk per day. Thus at this point, it may not be the time for a wholesale switch from corn silage, but there is the potential to use bmr sorghum silage at least for mid- and later-lactation cows and probably for our older heifers, as well. And, as feed prices have increased, evaluate the trade-off between increased efficiency and lost production.

If you're looking for alternatives in your forage program, you might want to consider bmr sorghum silage; however, realize more testing needs to be done to determine if it will work for early lactation high producing cows. In addition to milk production issues, there are some differences in agronomic characteristics, such as tonnage and lodging.

Results from last year's sorghum silage trials (69 varieties), as well as those of previous years from Texas AgriLife Extension Service and Texas AgriLife Research, can be found at: <http://amarillo.tamu.edu/programs/agronomy/>. Both nutritive values and agronomic information are included.

Although bmr sorghum silages may not be the complete forage answer, they are certainly worth investigating at least for certain groups of cows.

For more information on silage comparisons or other topics, visit <http://texasdairymatters.org>.

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