

SORGHUM SILAGE FOR DAIRIES

As drought has continued to plague Texas and other parts of the U.S., many producers and their consultants have investigated sorghum silage as a forage source. In general, sorghum sustains production during drought, becomes an alternative when planting is delayed due to weather, produces high biomass yields, and utilizes water more efficiently.

On the down side, sorghum digestibility is less than corn, although genetic advances have resulted in some varieties of sorghum having similar digestibility. Typically corn silage has less lignin and more grain than sorghum silage. Conventional sorghum varieties have had reduced fiber digestion, suppressed dry matter intake, and supported less milk production; however some of the newer varieties of sorghum have supported similar levels of productivity.

A recent trial conducted in Georgia, compared a brachytic dwarf forage sorghum with corn silage. The brachytic dwarf gene results in a shorter forage sorghum (about 4.5 feet instead of 9 feet). The internode distance is shorter; however the plant produces the same number and size of leaves at the same maturity level resulting in similar yields. Due to the shorter height, the brachytic dwarf sorghum appears to be less susceptible to lodging as well.

Forty-eight, mid-lactation cows were individually fed a ration balanced for protein, fiber and energy for a five week period. The predominant forage was either corn or forage sorghum silage. Adjustments in the quantities of oat baleage, wet brewers grains, whole cottonseed, ground corn, and soybean meal were made to balance the diets for protein, fiber, and energy. Select production parameters are provided in Table 1.

Table 1. Dry matter intake (DMI), milk, energy corrected milk (ECM), percent milk fat, and percent milk protein produced by cows fed either a corn silage (CS) or forage sorghum (FS) based diet harvested in either summer (S) or fall (F). Adapted from Bernard and Tao.

Silage	DMI, lb/d	Milk, lb/d	ECM, lb/d	Fat, %	Protein, %
CS-S	49.3	73.3	70.2	3.26	2.75
CS-F	47.1	74.8	69.3	3.07	2.66
FS-S	48.4	75.0	72.4	3.39	2.61
FS-F	45.3	75.5	73.9	3.48	2.66

In this trial, there were no significant differences in dry matter intake, milk yield or milk composition. Numerically there is an increase in the fat percent; however this was not significant (P=.20). Additional studies with larger numbers of animals for longer periods are needed to further explore these results.

To date there has been very little research to evaluate sorghum silage during early lactation when dry matter intakes are depressed. Based on this study and others that have been conducted, sorghum silage does appear to be a viable alternative to corn silage for mid- to late-lactation animals.