

# FORAGER



*Agronomics with livestock in mind!*



## IN THE FIELD – Managing Sorghum Sudangrass

Sorghum sudangrass, particularly hybrids containing the brown mid-rib (BMR) gene, have been gaining popularity. BMR sorghum sudangrass fits well with many dairy feeding and cropping programs. However, as with any other crop it has both strengths and weaknesses.

BMR sorghum sudangrass is a warm-season, summer-annual grass. In many respects, sorghum sudangrass is similar to corn without the grain. It performs extremely well in drought conditions, requiring even less water than corn. Like corn, it requires high fertility environments to maximize yield. However, BMR sorghum sudangrass requires different management practices than corn.



BMR sorghum sudangrass should be planted as early as possible after the last chance of a killing frost and when soil temperatures have reached 60°F. This is usually about two weeks after corn is planted. In conventional planting situations, primary tillage should be done 10 days ahead of planting. Then, final seed-bed preparation just before planting will minimize weed competition for the crop. For best emergence, 50-65 lbs of seed should be drilled ½ - ¾ inch deep in a firm seed-bed. Once soils are warm enough, sorghum sudangrass can be no-tilled with a drill into small grain stubble or sod. Immediately after first cutting, sorghum sudangrass can be no-tilled into alfalfa stubble at a rate of 35 – 40 lbs/acre. In thin alfalfa stands BMR sorghum sudangrass can improve stand density and increase yield. The addition of the highly digestible BMR sorghum-sudangrass silage to the alfalfa will also improve the feed quality of the forage.

Adequate fertility is important to maximize yield and quality from BMR sorghum sudangrass. Soil pH should be at least 6.0, but not more than 7.5. BMR sorghum sudangrass will use approximately the same amount of phosphorous and potassium as corn, about 50 lbs/acre and 150 lbs/acre respectively. These nutrients should be applied according to soil analysis results. Nitrogen (N) is the key limiting factor in growing a profitable crop of BMR sorghum sudangrass. Apply 100 lbs/acre (N) at planting and 75 lbs/acre (N) after each harvest. Spreading manure on this crop during the summer also provides a valuable option for improved nutrient management on the farm; however, manure cannot provide all the nitrogen needed by the crop. Applying manure too heavy can kill the stand. BMR sorghum sudangrass has an extensive, fibrous root system that

helps build soil structure and capture nutrients before they leach into ground water.

Under good growing conditions and proper harvest management, three cuttings of BMR sorghum-sudangrass can be harvested in most areas. For optimum quality, BMR sorghum-sudan should be harvested at a height of 30 to 40 inches. When fertility is low, harvest should occur at the lower end of the range. If a high fertility program is followed, harvest at 36-40 inches. In typical growing conditions the first cutting will be ready 45 to 50 days after planting, with subsequent cuttings at 35 day intervals. Discbines are more useful for mowing sorghum sudangrass, since many sicklebar mowers will not handle the volume or height of the crop. Sorghum sudangrass dries slowly and can only be harvested as silage. It usually yields about 10 to 15 tons/acre of silage in a given year (3 cuttings).

At certain times in the growing cycle and with certain weather conditions sorghum sudangrass has high levels of prussic acid, which can be poisonous to livestock. Never harvest at heights below 24 inches tall or for at least 10 days following a rain during a drought, or after a killing frost. These are times when prussic acid levels are highest in the plant. Prussic acid can be deadly to animals. Harvesting at the right time and fermenting the feed for at least 30 days will reduce levels.

In stands with alfalfa the cutting schedule should follow the alfalfa. In the second cutting there will not be a large amount of BMR sorghum sudangrass in the forage. However, the third and fourth cuttings should contain a significant amount. Any forage containing sorghum sudangrass should be fermented for at least 30 days before feeding, to minimize prussic acid levels.

BMR sorghum sudangrass is very productive on well-drained soils. It does not handle poorly drained soils as



well as some other crops. In wet areas complete stand failure may result from water-logged soils. Sorghum sudangrass is susceptible to traffic kill as well, especially in wet conditions. The picture to the left shows damage from travel through a wet spot

earlier in the season. Travel over wet fields should be minimized to avoid killing areas of the stand.

BMR sorghum sudangrass is a very digestible feed and can help maximize milk production when managed and fed properly. Management is the key to growing a productive crop of sorghum sudangrass.