

Managing Hybrid Bermudagrass For Hay In Summer

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Hybrid bermudagrasses are the most important hay crop in Georgia. Most of this hybrid bermudagrass acreage is Coastal, but there are sizeable acreages of Tifton 44, Tifton 78, and Tifton 85. There are good reasons for the popularity of these grasses for hay: long stand life, high yield, excellent response to nitrogen fertilizer, ease of curing and baling, and relatively good storage life in the bale. Most producers have productive hayfields year after year and are pleased with their hay yields. But, some livestock producers run into troubles with decreasing yields and stand losses even when large amounts of nitrogen are applied. Other producers have low-quality hay that requires heavy supplementa-

tion to get cows through the winter in good condition. These problems are widespread and can be solved with better attention to management during the summer hay season.

Lime

Hybrid bermudagrass responds well to nitrogen fertilization, yielding 6 to 8 tons of hay per acre. This is great, but high rates of nitrogen fertilizer increases soil acidity, making frequent applications of limestone necessary. Hybrid bermudagrass grows best at a soil pH of 5.5 to 6.5. Test your soil each year and apply lime when needed. Very acid soil conditions will reduce hay yields.

Nutrient removal by hybrid bermudagrass hay production

Hybrid bermudagrass is a heavy user of nutrients. A six ton per acre hay yield will remove the following nutrients:

	Pounds/acre
Nitrogen	300
Phosphorus	84
Potassium	252
Calcium	36
Magnesium	27
Sulfur	27

When hay is harvested and removed, these nutrients are removed and must be replaced if hybrid bermudagrass growth

is to continue at high rates. If the nutrients are not replaced, then yields will decline. Nitrogen deficiency is obvious with poor growth and pale green color and thus it is the nutrient most likely to be added throughout the growing season. Generally, 75 to 100 pounds of nitrogen are applied in spring before rapid growth begins and a similar amount after each harvest except the last one in the fall. The reason for applying more nitrogen than the amount actually removed by the hay is that some of the nitrogen is lost by leaching.

Phosphorus does not leach from the soil so one application per year is sufficient for hay production. Again, soil testing is important to determine how much to add. The amount of phosphorus needed depends on the rate of nitrogen - with higher rates of nitrogen, more phosphorus will be necessary. Shortages of this nutrient are much less likely to be a problem than nitrogen or potassium in bermudagrass hayfields.

Calcium and magnesium are required in relatively small amounts. If a good liming program is in use to keep the soil pH at a favorable level, then these two nutrients will be available to the bermudagrass in adequate amounts. Sulfur, again required in small amounts, is normally adequate in most soils. However, sometimes on very sandy soils in south Georgia the sulfur supply may be too low for good bermudagrass growth and

will need to be added. If your bermudagrass has been well fertilized with nitrogen and still has a light green or even yellowgreen color with poor growth, sulfur deficiency is a possibility.

Potassium is critical for high yields of bermudagrass hay

Many hay producers have had hybrid bermudagrass stands where stands declined over a period of years, resulting in poor growth and increased weed encroachment. This is usually a result of high rates of nitrogen fertilization along with inadequate potassium application. Hybrid bermudagrass utilizes large quantities of potassium which is removed when the grass is harvested for hay.

Every ton of bermudagrass hay removes 45 to 50 pounds of potash (K₂O). Even though potassium is applied once a year, it will not be adequate when high rates of nitrogen are applied. Compounding the problem is that potassium can be leached so part of it will be lost. This is an especially serious problem on deep sandy soils. Thus, it is better to make several

applications of potash fertilizer each year to supply the needs of the grass and maintain high hay production.

If potassium is applied once a year in spring, then spring growth may be good if stands are adequate. However, by mid-summer the potassium supply will be inadequate and hay yields will decline even though nitrogen is added in ample amounts. Thus, late summer production will be low. In addition, where potassium is deficient, the hybrid bermudagrass is less winter-hardy and less disease resistant. Thus, the plants are weakened and stands will thin during harsh winters. Research has shown that hybrid bermudagrass adequately fertilized with potash will be more winter-hardy and more productive the following year. Soil testing is important to determine potassium levels in the soil. Maintain adequate potassium levels throughout the growing season to keep good stands and productivity.

High quality hay production

Hybrid bermudagrass hay can be excellent or truly sorry stuff. High-quality

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ty bermudagrass hay is not a luxury but actually pays in that less supplement will need to be fed cows during winter. Even though hybrid bermudagrass has been well fertilized, some livestock producers manage to produce sorry quality hay. A few changes in management can greatly improve hay quality.

Harvesting hay at four to five week intervals will result in good yields and leafy hay that is easy to cure. Much bermudagrass hay is harvested at seven to eight week intervals and is of low quality. The reason for this is that forage quality (digestibility and protein content) is highest when the grass is young and declines as the grass matures. Cutting more frequently means more hay harvests but the payoff is much better quality hay.

Bermudagrass has relatively fine stems so a mechanical hay conditioner is not necessary for rapid curing. When weather conditions are good, the moisture content should be low enough for baling (less than 20 percent) in 24 to 36 hours. A hay tedder to fluff the windrow after a few hours in the sun will increase the rate of drying. High-quality leafy hay is somewhat more difficult to retain in the bale so baler adjustments are necessary to obtain a tight bale.

So what do we do with these bales of high-quality hay? Leave them in the field and lose 25 to 30% of it? It seems a pity to waste so much of this high-quality hay. Instead, bale wraps are a possibility or better yet store the bales under cover where losses are about zero. If you are producing high-quality hay, it may pay to seriously think about building hay storage facilities.

Hybrid bermudagrass is a dependable hay crop and if it is well managed it can result in good quality hay. It all depends on how you manage it. Hay is not a cheap commodity so produce and use it wisely.