

Managing Native Grass Forages

Patrick Keyser, Professor and Director, Center for Native Grasslands Management

Comparing Native Grasses to Bermudagrass

The most widely used perennial summer forage in the Mid-South is bermudagrass. How does it compare to native grass forages? First, there are a few similarities. Natives and bermudagrass are 'C₄' grasses meaning that they are well adapted to summer droughts, more so than any of our cool-season species such as tall fescue and orchardgrass. Both provide relief from fescue toxicosis during warm summer months. They are also all perennials and therefore have the advantage of being cheaper and more reliable than summer annuals, which makes either a better foundation for summer forage.

Bermudagrass has two obvious advantages over natives. First, it is more tolerant of overgrazing. Natives can tolerate occasional heavy defoliation, but will not persist where heavy defoliation is sustained. The other advantage of bermudagrass is its ability to respond strongly to nitrogen (N) inputs allowing for high stocking rates. In one North Carolina study, Coastal bermudagrass was stocked at 10 steers per acre during summer (but that was with 500 units of N per acre!).

Natives have several advantages over bermudagrass though. First, natives have considerably greater rates of gain than bermudagrass making them a better choice for backgrounding, stockering, heifer development, or grass finishing operations. A second North Carolina study compared 'Tiff 44' bermudagrass to switchgrass, big bluestem, and eastern gamagrass and found that the natives produced 70-130 lb more gain per steer during summer grazing. Coastal produced only 0.92 and Tiff 44 1.08 lb per day, and in both cases with heavy N rates (300 and 500 units, respectively).

On the other hand, natives can get by with low fertility producing nearly 60% (vs. only 20% for bermudagrass) of their potential yield without any supplemental N. Combined with lower requirements for potassium, natives produce gain more economically than bermudagrass, \$0.31 vs. \$0.54 per lb based on an analysis at UTIA. Thus natives can be more profitable, especially when cattle prices are low and/or input prices high.

Another advantage of natives over bermudagrass is their adaptation to our region. Natives can grow on more extreme sites (poor, thin, or wet soils), do not winterkill, and survive extreme droughts better than bermudagrass. In a Texas study that compared switchgrass and bermudagrass, the native had greater water-use efficiency meaning more forage was produced per unit of available moisture. Preliminary results of a UTIA project appear to support that finding.

In summary, for producers who prefer an easier grass to manage and are not concerned with rate of gain, bermudagrass can be a good choice. Producers willing to manage their pastures more closely and prefer higher rates of gain, should consider natives. Where marginal sites or drought mitigation are major concerns, natives can be advantageous as well. For more information on native grass forages, see UT Extension publication series SP731 on line at <http://nativegrasses.utk.edu/publications/default.htm>.