Managing Native Grass Forages

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Why Use Native Warm-season Grasses? Drought

In addition to the benefits that native grasses can provide for stockering and/or backgrounding and heifer development, there is another value to including them in a forage program: drought. I write this in an El Nino winter, on the heels of a storm that gave us about 2 inches of rain over the past 24 hours. Hard to think about drought at this point! But we can be certain that whether it is 2016 or sometime further in the future, we will experience another severe summer drought here in the Mid-South. And the time to prepare for such a drought is not once we are in its grip, but rather ahead of time, while we have options – and rainfall!

There are several reasons that native warm-season grasses can be a good tool for handling summer drought. First, they are warm-season grasses. The technical term is C_4 grasses, that is, they have a metabolic pathway that makes them very efficient in using water. Conversely, tall fescue and orchardgrass, the backbone of our region's forage system, are C_3 species. These cool-season grasses are less water efficient and become semi-dormant in summer, even where there is normal summer heat and moisture.

Second, natives such as big bluestem, indiangrass, and switchgrass are perennials and as such are more reliable. You do not have to decide if this summer will be abnormally dry, when the dry spell will hit, and you do not have the risk – and costs –associated with annual establishment. Each spring, wet or dry, the perennial warm-season grasses are already growing and can be available whenever needed.

A third advantage natives have is rooting depth, as much as 10-12 feet. Such deep roots allow these drought-hardy species to find water not available to species with shallower roots. Indeed, in drought-stricken sections of Oklahoma and Texas many bermudagrass pastures have succumbed while native stands, which are typically on poorer ground that could not be converted to other uses, have survived.

Research in that region has confirmed that natives (switchgrass) have greater water use efficiency than bermudagrass. And in a Tennessee biomass study, switchgrass produced about 5 tons per acre during 2007, one of the worst droughts in our history. While hay production would not have been quite that high, this is still well above what we typically see in a normal year for a cool-season grass! A few years back, I spoke to a producer who had 17 acres of eastern gamagrass and was able to keep his cows fed during a severe summer drought when his other pastures had dried up.

Even if you are not seeking high rates of gain for stockers or heifer calves, but simply want some "drought insurance" for dry cows, having a native grass pasture can help balance out your cool-season forage base and give you some alternatives during drought periods. For more information see *Establishing Native warm-season grasses for livestock forage in the Mid-South* (SP731-B) and *Grazing Native Warm-season Grasses in the Mid-South* (SP731-C) at extension.tennessee.edu/publications/Pages/default.aspx.