Managing a forage said to be 'too difficult to manage'

Patrick Keyser for *Progressive Forage*

AT A GLANCE

Native grasses sometimes get a bad rap, but how hard are they really to manage? See what the research says.

As I discuss the use of native grasses in forage programs, I often encounter folks who've heard native grasses aren't a practical option because they are "too difficult to manage." Native grasses like big bluestem, indiangrass and switchgrass are what we refer to as "tall-growing" and, like any tall grass, are more sensitive to overgrazing. So with that said, how hard are they really to manage?

Over the past decade, we have conducted a series of grazing trials at the University of Tennessee in an effort to understand the productivity of these grasses and how to practically take advantage of that productivity. Based on six studies, each conducted for three or four years, there are some clear lessons learned.

It's all about the canopy

First, we have confirmed the obvious: Managing natives (like any other forage grass) is all about the canopy. If we graze too closely, or allow the canopy to become too tall and over-mature, we are penalized: Animal performance declines and we produce less beef per acre. As previously stated, persistently low canopies (aka overgrazing) will eventually cause natives to thin out and allow the stand to be overtaken by weeds.

The simple key, then, is to maintain the canopy height in a range that optimizes stand vigor and persistence as well as animal performance and beef production. Not really a big revelation to most of us. In fact, this idea applies equally to every species of grass we manage for forage production – no exceptions. The difference with natives simply is: The range of canopy heights is different from what we target for other, more traditional forage species.

For example, with tall fescue, we would consider canopies between 4 and 12 inches to be desirable. With bermudagrass, maybe more like 3 to 8 inches. For tall-growing natives, the optimal range is more like 15 to 30 inches (**Figure 1**).

Adjusting to that different scale takes some getting used to. But it works. I often tell producers to think of the bottom 12 inches of native grasses as part of the root system – something we need to produce grass and, ideally, shouldn't be grazed. I should point out you can graze natives closer than this, but it isn't to your advantage. Closer grazing means weaker grass, less beef and more weeds. We have also learned – despite what you may have heard – you can graze natives "into the ground" and they will be fine. The key here, though, is: You can't do this repeatedly or persistently. But if you "hammer" a stand, it can fully recover simply by giving it adequate rest (**Figure 2**).

How hard is this to do?

OK, so you need to manage for a range of canopy heights with natives – kind of like any other grass, just higher. "Good," you may say. OK, you can get away with overgrazing natives, just not persistently. Again, good. But a reasonable person could ask: "How hard is that to do? Do I have to practice some sort of careful, intensive rotational management?" I'm glad you asked. The good news is: The decade of experiments we have been conducting have shown us that, as a matter of fact, it really is not hard to do at all.

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We have used a simple, three-paddock rotational system quite effectively on natives (**Figure 3**). Even a two-paddock approach has worked. In these cases, we ended up needing to move about once every three to 14 days, usually about every five to seven days. That, of course, will depend on how heavily you are stocked, but we were able to keep a group of animals on natives all summer with this approach. We never used a more intensive approach in our work, but the principle will still apply with say, eight to 10 paddocks and more frequent movement. Regardless of frequency, the old rule of thumb – "take half, leave half" – makes for a very good guide here.

We have also effectively used a novel approach borrowed from the Great Plains: "patch-burn grazing" on pastures as small as 20 acres – burning one-third (about 8 acres) annually. In this system, cattle have access to the entire pasture all summer (no rotating required). The cattle will allocate their grazing pressure disproportionately to the patch that has been burned most recently. Interestingly, in this system, we often see the current year's burn patch being grazed quite heavily, but with subsequent rest

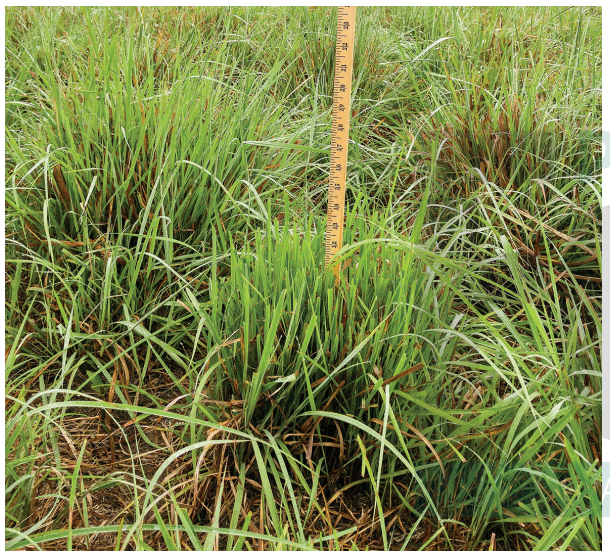

Figure 1 To achieve optimum production and maintain stand persistence, native grasses require taller canopy heights than many traditional forages. Note the 12-inch plant in the foreground and taller plants (about 20 inches) in the background. These are all vigorous plants, but the leaf surface area at 12 inches should be regarded as a minimum. Also note the stemmy part of these plants below about 10 inches. This portion of the plant does not provide much forage but is important for energy storage and maintenance of plant vigor.

Figure 2 This eastern gamagrass stand was overgrazed, leaving short plants that were not vigorous. Picture on the top was late summer 2014. Although the stand was in worse shape in late 2015 (no photo), in 2016 with a summer rest, the stand was once again vigorous and productive (bottom). Weed control and proper fertility management can aid in recovery of stressed stands.

Figure 3 A big bluestem/indiangrass/little bluestem blend managed with a three-paddock rotational approach. Cattle are removed from the stand on the top and are about to start grazing the stand on the bottom.

(reduced grazing pressure) that patch recovers in years two and three.

Success in continuous grazing

We have also been working on continuous grazing strategies with very good success. In this trial, we have compared two very simple approaches. First, we placed a set rate of animals (1.5 steers per acre) on a pasture all summer: open the gate in early/mid-May and let them in, and pull them out in late August (**Figure 4**). It does not get any simpler than that. A slightly more complicated approach in this same study is stocking higher at the start of the season (125 percent of the rate for the simple continuous grazing) and then reducing numbers in late June (to 75 percent of the base rate under the simple continuous system) for the balance of the summer. We have referred to this approach as "heavy early" stocking.

The results so far? Good animal performance, good stand condition, good sward persistence. Granted, some experience is required to identify the appropriate stocking rate for a given pasture, but once you arrive at that figure, additional adjustments can easily be made by simply pulling animals off sooner/later in late summer. Or, in the case of "heavy early" stocking, use the late-June reduction to adjust (either by making the adjustment sooner or later, or greater or less than planned). Again, pretty simple.

The take-home message from all of this is: There are many ways a producer can effectively maintain appropriate canopy conditions on native grass pastures: simple rotational, patch-burn, heavy early or even continuous grazing. There's no doubt creative producers will be able to add to this list. For instance, a well-timed hay cutting can easily correct understocking a pasture. Likewise, mistakes in the other direction can be easily corrected by allowing adequate rest.

It's true, though, that if a producer does not pay attention or is prone to repeated overgrazing, natives will suffer. But at some level, this is true for many of our forages. Natives are just less forgiving and will let you know sooner that you're off target. Given the importance of good grazing management for all of our pasture, maybe natives are a good tool to help us learn to pay closer attention to the condition of our pastures.

Photos provided by Patrick Keyser.

Figure 4 A stand of big bluestem/indiangrass/little bluestem subject to continuous, season-long grazing. Picture was taken Aug. 18 during a very dry summer (2016).