



Getting the Most Out of Your Perennial Pastures in the Southeast

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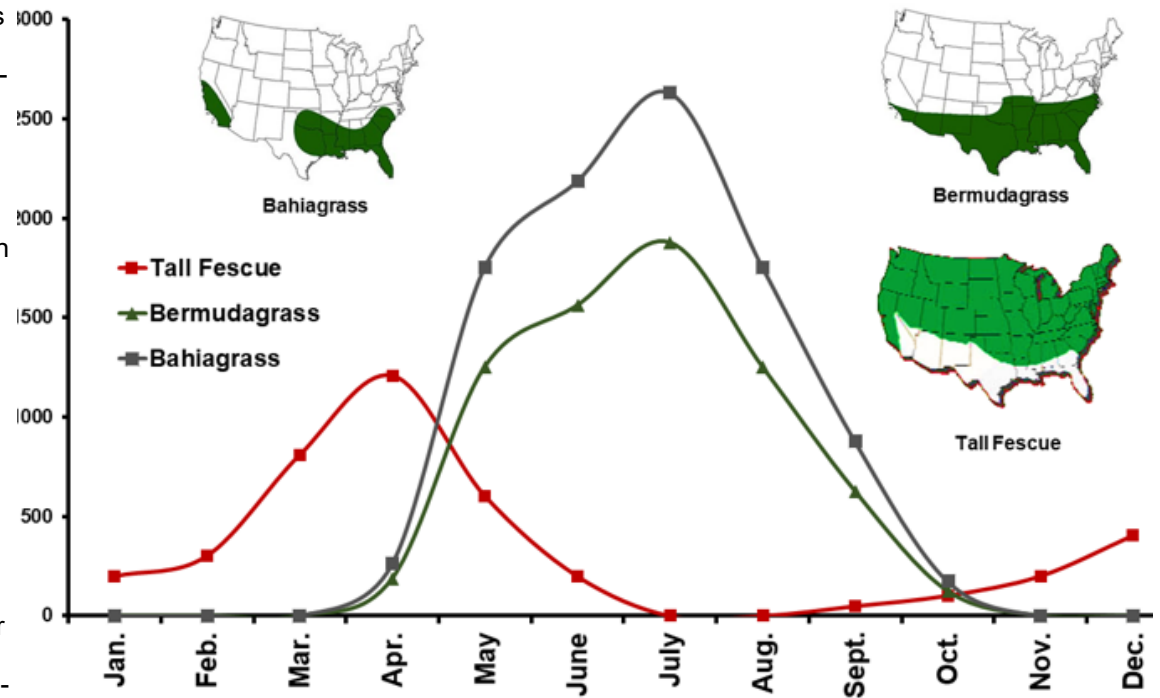
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Livestock production in the southern USA depends largely on the utilization of perennial pastures such as bahiagrass, bermudagrass, and tall fescue. There is a large number of acres of these species that allow us to complement and extend the grazing season in the region. These grasses provide environmental benefits such as reducing soil erosion and decreasing weed competition. A perennial pasture with a strong root system can act as a sponge to absorb water and increase vertical water movement and nutrient uptake. The reality is that those benefits are usually diminished by producers due to improper grazing practices and poor nutrient management. These practices decrease the potential for dry matter production throughout the season and therefore, it decreased carrying capacity and stocking rates. However, there is no reason why these perennial grasses should not have long persistence and productivity in your pastures. The only time that we should see productivity limitations is in dry years or when pests such as armyworms can impact bermudagrass production and reduce plant density.

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These forage species can provide grazing advantages depending on location (Fig. 1). For example, tall fescue is productive in the upper part of the southern states. We usually see I-20 as the boundary for tall fescue in Mississippi, but my recommendation will be 30 miles north of I-20 as the actual boundary. A well-established tall fescue pasture can provide grazing from mid-March to mid-June and then it will go semi-dormant due to heat and humidity. Tall fescue productivity resumes in the fall and can be stockpiled for grazing after the summer perennial grasses go dormant.

Figure 1. Seasonal distribution and adaptability zones of perennial grasses (bahiagrass, bermudagrass, and tall fescue) in the southern USA.



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Bahiagrass and bermudagrass are grasses that can offer extensive grazing during the summer and they are widely adopted throughout the southeast. Bahiagrass tends to green up earlier in the spring than bermudagrass and stay greener later in the fall. On the other hand, bermudagrass usually tend to have a greater nutritive value than bahiagrass. Some programs administered by the Natural Resources Conservation Service (USDA-NRCS) might offer some incentives for conservation and grazing management practices for implementing perennials grasses. Visit your local USDA-NRCS office for more information, program availability, and eligibility.

Many new varieties within these three perennial grass species could offer some advantages over older or more traditional varieties than the ones you have in your pasture. I usually receive calls asking about these new varieties. My recom-

mentation is assessing your pasture first. If there are still opportunities to improve the performance of your current pasture, exhaust these options first. If you have a good stand of the variety, I would recommend focusing on management. Some of the new varieties might require higher nutrient management (for example hybrid bermudagrass) and better grazing management practices. If you are not doing that already with your existing pasture, you will have a stand failure and then we tend to blame the variety instead of the management practices. Again, because of the capital costs of establishing new varieties, you must be confident you are going provide the correct management practices to get the projected benefits in your livestock operation. You have heard the term “if it ain’t broke, don’t fix it.” If old varieties of these species have not performed well or survived on your farm, do not expect new varieties to do any better if there is an underlying issue with soil fertility or grazing management practices. Always check with your local Ag Extension Agent or Extension forage specialist about forage variety performance trials in your state. In Mississippi visit <https://bit.ly/MSForageVarietyTrials> for more forage performance information.

There are management practices that can help increase dry matter production from these perennial grasses in a pasture. First, it is recommended to determine soil nutrient status. Grasses cannot grow without a healthy soil. Collecting a soil per each pasture smaller than 15 acres will help to determine nutrient management practices for each pasture. Do not collect a soil sample in just one pasture and assume that one size fits all. Soil nutrient recommendations for each

pasture can vary depending on soil type and pasture species composition. Implementing the proper fertilization can help increase plant vigor and competitiveness. Second, implementing a rotational grazing that allows to achieve proper length of rest period along with proper residual height will allow to increase root growth (basal area in tall fescue and rhizomes in bahiagrass and bermudagrass), carbohydrate reserves, and increase dry matter production. The grazing height of most grasses depend on time of the

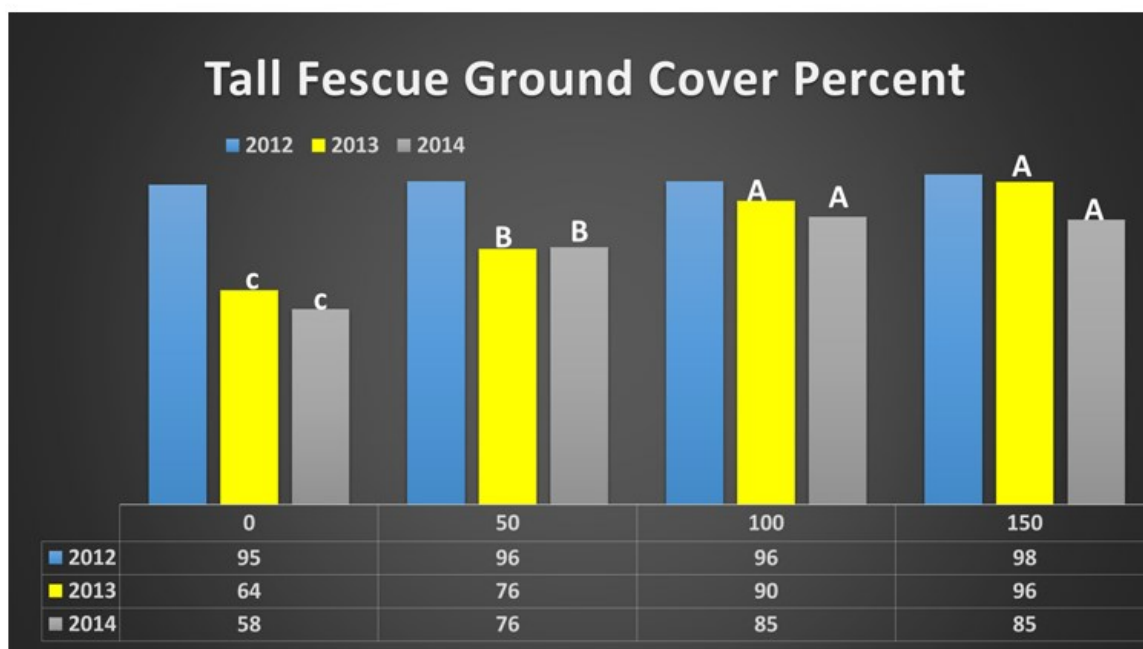


Figure 2. Impact of yearly nitrogen application in units per acre to percent ground cover of tall fescue over a three-year period in Starkville, MS. Source: Lemus and White, 2016.

year and environmental conditions (temperature and rainfall). Getting the rest period of these grasses can depend on temperature. Leaving enough leaf area will allow these grasses to regrow their maximum number of leaves per tiller and optimize photosynthetic activity to increase sugar production. Therefore, a well-established perennial pasture can be graze up to 3 inches stubble height. A clear way to determine how many pastures you need depends on how many days you plan to graze vs. how many days the grass need to rest. For example, if you want to graze for 10 days and rest for 20, that means that you will need 4 pastures [Number of Pastures = (resting days/grazing days) + 1; Number of Pastures = (20/10) + 1 = 3 pastures]. Keep in mind that pasture size will depend on number of livestock, their weight, forage utilization, and amount of dry matter forage production per acre.

Producers keep good records of the livestock, but when it comes to keeping a record of their pastures (fertilization, annual herbicide application, grazing rotations, grazing days, rest periods, etc.) is almost non-existent. Maintaining a comparison of pasture data (dry matter production, stocking rates, etc.) for each pasture will allow identifying pastures that are not reaching their productivity potential and then you can prioritize on management and economic input. An objective analysis of these records will help you make informed decisions about where to make the necessary changes to get the best return per dollar invested.

A clear example of pasture management is tall fescue. Several years ago, producers in north Mississippi were expressing concern that the persistence of tall fescue in their pastures was limited to three years or less. Several studies conducted at Mississippi State University (MSU) that included 10 tall fescue varieties (K-31, 3 novel-endophyte, and 6 endophyte-free) uncovered several management practices. As we establish tall fescue in the fall and it greens up in March,

producers tend to overstock the pasture and overgraze it. Our study recommended that newly established tall fescue should not start grazing until it has reached 10 to 12 inches and graze to 6 inches. If there is enough growth before mid-June, implement grazing leaving at least 5 inches of stubble height and then let it rest for the summer. More aggressive grazing to 3 inches can be implemented in the fall. Overgrazing tall fescue during the establishment year reduces root development and carbohydrate reserves that will allow surviving the heat and humidity that we experience during the summer months. Another MSU study looked at nitrogen fertility of different varieties when lime, phosphorous, and potassium were kept the same. After three years, the study indicated that varieties that received less than 50 units of nitrogen per acre per year in the spring and fall have a 24 to 42% reduction in tall fescue stand (Fig. 2). Do not overlook soil fertility since it is usually the most limiting productivity factor in our southern pastures.

Perennial pastures are the core of any successful livestock operation, but they also require time, effort, and money to implement good management practices and get the expected economic return. As you begin your 2020 grazing season in your perennial pastures, it is time to maintain good record keeping and assess your forage production enterprise. There are many opportunities to improve degraded or neglected pastures with planning at a low cost. Incorporating the latest varieties may be an option, but before doing so, check to see if you have applied the best practices to optimize the productivity of the current perennial grass varieties on your livestock operation. Be a good manager by planning and timing grazing right for each species on your farm.

Upcoming April Webinars Series

April 21, 2020—Nutrient Management Practices in Forage Production
Registration Link: <https://bit.ly/ForageNutrientManagement>

April 23, 2020—Using Summer Annuals to Complement Your Summer Forage Production.
Registration Link: <https://bit.ly/SummerAnnualForages>

April Forage Webinars Registration Deadline is Friday April 17, 2020 by 5:00 PM CST

For upcoming forage related events visit: <http://forages.pss.msstate.edu/events.html>

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