Article for Georgia Cattleman's Magazine
February 2017
Taylor Hendricks, PhD Student in Animal and Dairy Sciences Department
Dennis Hancock, PhD., Professor and Extension Forage Agronomist
The University of Georgia

Livestock producers across the Southeast are always looking for an edge. Some forage source that is ideally high-yielding and high-quality, reduces the need for supplemental and stored feed, while performs well in less-than ideal soil and weather conditions, and has a fertilizer bill that doesn't break the bank. While there is no "silver bullet" forage that can cover every one of these needs, there are forages that can accomplish several of these goals. Alfalfa is one option.

YES, ALFALFA CAN GROW WELL HERE!

Alfalfa is a long-time favorite of producers in the Midwest, northern, and western states because of its high yields and high forage quality - relative forage quality (RFQ) of alfalfa hay generally ranges from *125-180, total digestible nutrients (TDN) of 60-70%,* and *15-22%* crude protein (CP). These values, coupled with four to eight tons of dry matter per acre annually and reduced nitrogen (N) costs for legumes, have peaked the interest of many Southeast producers. Even with increasing alfalfa acreage in the region, some producers still ask, "Alfalfa in the south?" That answer is a resounding – *YES!*

Alfalfa is known as the "Queen of Forages" for its high quality and versatility. It is well suited for both grazing and stored forage production as hay or baleage. Traditionally, alfalfa has been grown in pure stands that can be harvested as high-quality hay for the equine industry or as silage in the dairy industry that doubles as a nitrogen-fixer in corn silage rotations. Pure stands of alfalfa as a feed source

can easily meet the nutritional requirements for most classes of livestock and can be used as supplementation. However, producers are increasingly using alfalfa as part of a mixture with perennial grasses. In the Upper Midwest, these mixtures may feature a cool season grass such as orchardgrass, tall fescue, or Italian ryegrass, but in the South, interseeding alfalfa into a warm season perennial, such as bermudagrass (and even bahiagrass), is an increasingly popular choice.

Figure 1. Cattle creep grazing Bulldog 805 alfalfa in Tifton, GA.

Figure 2. Bulldog '805' alfalfa interseeded into Tifton 44 in 2005 at the Sunbelt Ag Expo in Moultrie, GA has persisted well and maintained over 50% stand through 2017.

GAME CHANGER

Thirty years ago, most of the available varieties did not tolerate hot, humid environments very well. Consequently, alfalfa fell out of favor in the South. But, major alfalfa breeding efforts, most notably at the University of Georgia, have focused on finding varieties that survive and thrive in the South and can handle the disease and insect pressure here. In the last 20 years, several southern-adapted varieties have been developed. These new varieties have changed the game for alfalfa in the South. In addition, many of these varieties have a lower fall dormancy rating, enabling growers to take full advantage of the longer growing season here. For example, producers in South Georgia may be able to get seven to ten hay or baleage harvests each year in a well-managed system while North Georgia producers should expect four to seven cuttings in a season. In addition to the development of high dormancy rated varieties, the introduction of glyphosate resistant varieties has made weed management much easier for producers in a region susceptible to weed pressure throughout the year.

Figure 3. Bulldog '505' alfalfa blooms at the J. Phil Campbell Research and Education Center in Watkinsville, GA in April 2017.

While at the University of Georgia, Joe Bouton developed two southern alfalfa varieties that are commonly used – Bulldog 505 and Bulldog 805. Bulldog 505 is a fall dormancy rated 5 suited for growth throughout Georgia and the whole South. Bulldog 805 is a fall dormancy 8 variety that is better suited to South Georgia and areas roughly 150 miles either side of I-10. University of Georgia variety testing compared numerous alfalfa varieties

available on the market for yield and stand rating over time. Current UGA recommendations include varieties such as: BaraWet 501, Bulldog 505, Bulldog 805, CW500, HybriForce 600, Pheonix, and PGI 801 which all received superior yield and stand ratings after 3 production years. Other suitable varieties for the state include: Alfagraze 600RR, Attention II, Bara-503, Evermore, HybriForce 700, and TS8031.

WE KNOW WHAT WORKS AND WHAT DOESN'T

Research at several land-grant universities in the Southeast have led to the development of a comprehensive set of establishment recommendations for alfalfa producers. The National Alfalfa & Forage Alliance's publication entitled "Growing Alfalfa in the South", written by Forage Specialists across the South including UGA, provides many of the fundamental management considerations. Additionally, the UGA Extension publication titled "Alfalfa Management in Georgia" provides a very detailed description of how to grow alfalfa in the South. Site selection is imperative for successful stand establishment. Alfalfa should be grown on well-drained soils without a shallow water table or hardpan to improve rooting conditions and promote stand longevity. Additionally, the pH of the site is critical; alfalfa grows at an optimum soil pH of 6.5-6.8. Because alfalfa has a deep taproot, the acidic subsoil in the Southeast region may also be a concern and producers should test their soil up to 4 feet below the surface and, when necessary, lime should be applied to achieve a pH subsoil of at least 5.5 before establishment. In some cases, the addition of gypsum can further protect against the risks of low soil pH.

As with any forage, nutrients (including micronutrients) should be applied according to soil test recommendations. Potassium is especially important because it promotes root development and stand longevity. Finally, alfalfa should be established during the fall in the South. This reduces the competition for seedling plants from weed and insect pressures more common during summer months and ensures that warm-season perennial grasses are dormant if alfalfa is being interseeded.

Figure 4. Bulldog '805' alfalfa/Tifton-85 bermudagrass mixture is cut for baleage at the UGA Coastal Plain Experiment Station in Tifton, GA during May 2017.

WORKSHOPS COMING THIS MAY

Producers who are interested in learning more about alfalfa varieties, establishment, and use can do so by visiting our in-depth alfalfa publications "Alfalfa Management in Georgia" and "Growing Alfalfa in the South" at www.georgiaforages.com. Additionally, the UGA Forage Extension Team will be hosting a series of Alfalfa in the South producer workshops throughout the state in May 2018. More information about these and other UGA forage events can also be found at the www.georgiaforages.com website.