

Alfalfa IS for Beef Cattle

Jennifer J. Tucker, M. Kimberly Mullenix, Liliane S. da Silva, S. Maggie Justice, R. Lawton Stewart, W. Brandon Smith, William Secor, and Matias Aguerre

Abstract

This project was part of an Agricultural Research and Extension NIFA AFRP project with combined efforts from three universities in the Eastern region (University of Georgia, Auburn University, and Clemson University). Alfalfa use in the southeastern US can provide a high-quality input for livestock production, while providing secondary ecosystem benefits to the longevity of forage-based systems through sustainable agricultural intensification (USDA Science Blueprint, 2021). Increased research and Extension efforts in the region have determined there is growing interest among producers in the utilization and management of alfalfa in the South, and opportunities exist to create a closed loop production system. Our work aims to add to the ongoing applied research regarding alfalfa management, production, and use in the South, specifically targeting forage and livestock producers. Using alfalfa baleage as a primary feed source for beef producers, focused on backgrounding steers and heifer development and the associated herd impacts, while quantifying the feeding value of alfalfa baleage in comparison to common commodities in the region from the plant and animal perspectives. The benefits of the use of legumes in forage systems and livestock diets are well established however the opportunities of alfalfa use as a primary feed source in the beef industry have not been well-defined and are often underappreciated by producers. Ultimately, quantifying and better understanding the application of alfalfa in this manner may help expand alfalfa use in the Southern region. Specific objectives of this work are (1) to evaluate the use of alfalfa in beef cattle diets compared to “business as usual” drylot diets for backgrounding and heifer development in the South to improve management practices and expand alfalfa utilization in the region, (2) to develop an economic analysis of alfalfa-based feeding systems and alfalfa production in the South, and (3) to create awareness on management and use of alfalfa as a primary feed source for southern livestock producers and expand alfalfa-based training and knowledge beyond technical educators and producers to point-of-sale industry contacts.

From the Source: On-Farm Experiences from Southern Beef Cattle Alfalfa Advocates



“Using alfalfa as a feed source in our beef operation has allowed for the development of a ‘closed loop system’ in essence we are able to grow our own feed with little reliance on external purchased commodities to meet our livestock needs.”

Jaffe Paysinger, Elkmont, AL

*2023 Alfalfa in the South Workshop at Paysinger Farm



“I have started incorporating alfalfa into my forage-based system because of its richness in nutrients such as protein, vitamins, minerals, and fiber. Hence, it has improved my calves daily gain and weaning weights. In addition, it has improved my brood cow’s reproduction performance.” Handy Kennedy Jr., HKJ Ranch, Cobbtown, GA

“This feed (alfalfa-bermudagrass baleage) has been a tremendous asset in our backgrounding of weaned calves, as it fills a gap in our forage supply from when frost kills our bermudagrass in October and when our winter grazing of ryegrass and clover really begins to grow in late February and March. I am absolutely an Alfalfa Advocate, you can’t argue with 2.5 lb/day gain on weaned calves.”

Phil Moshell, Deer Creek Farms, Inc.



“It’s a game changer for the Beef industry I have one farm where I got a guy started growing Alfalfa for dry forage to use in his mixing feed ration and now we’ve interseeded it in a Tift 85 field for grazing. He is seeing a 12% increase in weight just in the first year.” – Keith Herndon, Jasper, GA

Alfalfa Hay producer 20+ years experience

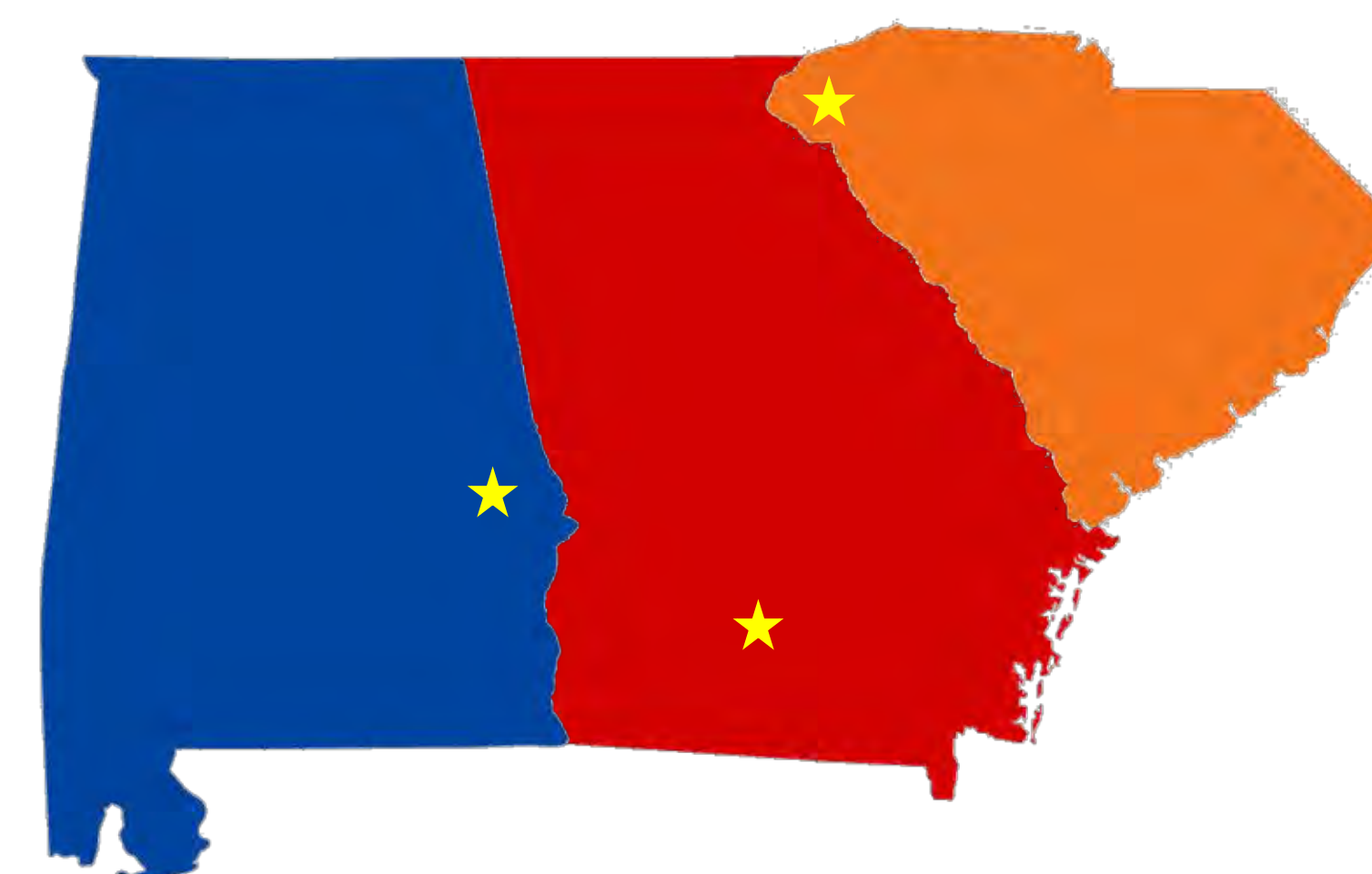


Figure 1. Feedback from southern alfalfa advocates illustrates a transition in practice from selling to feeding their alfalfa-based baleage to their own cattle herds. Rationale is based on the enhanced profitability by cutting costs of purchased supplements since the alfalfa met the nutritional requirements of their animals and allowed for enhanced animal performance.

Hypothesis

1. Utilizing alfalfa as a primary feed source for beef animals will enhance feed quality, animal performance, and herd stability for southeastern livestock producers and maximize closed loop operation opportunities to improve system stability and viability.
2. Quantifying digestion dynamics of alfalfa baleage as compared to common drylot-based nutritional systems used by beef cattle producers in the region through ruminal digestion evaluations will characterize first level and secondary benefits of alfalfa utilization in beef cattle diets during the post-weaning phase.
3. Enhancing Extension tools, education opportunities, and producer case studies on alfalfa use in the region to include more in-depth discussion on the practical use of alfalfa in southeastern beef cattle diets will increase alfalfa acreage in the region.

Evaluation Locations



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- **Experiment 1:** Evaluating Alfalfa Baleage for Backgrounding Weaned Beef Calves (Tifton, GA)
- **Experiment 2:** Evaluating Alfalfa Baleage for Heifer Development for Replacement in the Herd (Clemson, SC)
- **Experiment 3:** In Vitro Digestibility of Alfalfa in Beef Cattle Diets as Compared with “Business As Usual” Drylot Feeding Strategies (Auburn, AL)