

NAFA

Title: Alfalfa Bermudagrass Management Guide and Additional Educational Resources

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Abstract:

Alfalfa production in the South is not a new idea, and many years ago alfalfa was once the dominant perennial legume species used in the region. However, the harsh environmental conditions and cheap nitrogen fertilizer sources soon eliminated many productive alfalfa stands (Lacefield et.al., 2009). In recent years, there has been an increase in educational efforts, plantings, and adoption of alfalfa in the Southern U.S, a trend that is expected to continue as researchers continue to investigate the variety of applications of alfalfa in the region. University research and on-farm producer application have determined that interseeding alfalfa into warm-season perennial grass sods provides great potential for extending the growing season, improving the quality of the forage base, and easily fits into current livestock-forage systems with minor management adjustments. While regional materials have been developed in various formats, a centralized reference guide was needed that focused specifically on Alfalfa-Bermudagrass mixtures. This 25-page guide and supplemental 11"x17" flip calendar provides information on establishment, management and use, integrated pest management (weeds, insects, and plant diseases), and economics of alfalfa-bermudagrass systems across the "Bermudagrass Belt", a region that spans from coast to coast, encompassing the entire southern portion of the United States and much of the transition zone.

Introduction:

Alfalfa production in the South is not a new idea, and many years ago alfalfa was once the dominant perennial legume species used in the region. However, the harsh environmental

conditions and cheap nitrogen fertilizer sources soon eliminated many productive alfalfa stands (Lacefield et.al., 2009). In recent years, there has been an increase in educational efforts, plantings, and adoption of alfalfa in the Southern U.S, a trend that is expected to continue as researchers continue to investigate the variety of applications of alfalfa in the region.

Alfalfa success stories in the South can look very different than the traditional management from other US regions. Alfalfa utilization in the South involves varieties developed specifically for the region, known for having greater drought, heat and pest tolerance, potential for dual-purpose use (grazing and hay), and very long growing seasons as most recommended varieties are semi-to non-dormant. Further, university research and on-farm producer application have determined that interseeding alfalfa into warm-season perennial grass sods provides great potential for extending the growing season, improving the quality of the forage base, and easily fits into current livestock-forage systems with minor management adjustments. A method of alfalfa integration that is especially appealing as it does not require complete renovation of the land area and provides producers with a backup plan if stand failure were to occur as they would still have their perennial grass base.

Most educational reference materials developed on alfalfa use in the South have focused on management of monoculture systems and were developed more than 10 years ago. Integrated alfalfa-bermudagrass systems may require different management guidance, and thus new materials should be developed in a complete printed producer- friendly guide for establishment and management specific to alfalfa in bermudagrass systems. This national resource guide on alfalfa-bermudagrass management can be used by producers, research, Extension, and industry leaders to help expand the distribution of information regarding alfalfa use in the southern region of the US and serves as a central reference piece that highlights the efforts of research and on-farm work in the region.

Materials and Methods:

PIs worked collaboratively with colleagues across the region to identify subject matter experts to address common management strategies and provide guidance for alfalfa-bermudagrass systems. Authors worked collaboratively to review system strategies, summarize recent data, collect Extension recommendations, and provide resource information in a way that would be easy for producers to navigate. Once compiled in a book layout, materials were distributed to expert peers for external review. External reviewers were chosen based on expertise in various aspects of alfalfa production and knowledge of the alfalfa-bermudagrass system that represented private and public entities. After final reviews occurred, publication materials were sent to an external organization for print compilation and layout and extensively reviewed for aesthetics, readability, and user friendliness. At this time, it was also determined that a spiral bound notebook would be cost prohibitive (due to recent supply chain issues) and thus the additional flip book material was transformed into a flip poster.

Objectives and Results:

The objectives of this project were to provide a NFAA publication on the management and production of alfalfa-bermudagrass mixtures and an alfalfa-bermudagrass quick resource calendar for producers.

The efforts of the team of authors and reviewers resulted in two high-quality products (1) a high-quality 25 page 9”x 6” glossy small book focused on alfalfa-bermudagrass management, and (2) a foldable/flip alfalfa-bermudagrass reference calendar that unfolds into a 11”x 17” poster highlighting monthly management items of consideration. Both the guide and calendar have high-quality high-resolution photographs for reference and identification of insects, diseases, and nutrient deficiencies. Additionally, the guide has summary data tables from recent work completed in the Southeast and funded in- part by the USDA NIFA Alfalfa Forage and Research Program.

Topics covered in the materials include establishment guidelines for alfalfa-bermudagrass mixtures, identification of common nutrient deficiencies, harvest management of alfalfa-bermudagrass mixtures (both as a storable feed as well as grazable pasture forage crop), insect, pests, diseases, weed control, and finally a quick economic summary based on research to date.

Outputs of this project include the Alfalfa-Bermudagrass Management Guide (a 25-page publication), the Alfalfa-Bermudagrass Mixtures Calendar (a 11”x17” flip reference), html links to both products for uploading to the NAFA webpage including a readable flip book along with downloadable high-resolution PDFs. Outreach efforts of this work include copies of materials that have been printed and prepared for distribution with dissemination across the region and nation occurring throughout 2022 via regional Extension programs (including the 2022 Better Beef Systems Event – Tifton, GA, the 2022 Alfalfa in the South Workshop – SC, the ACES Animal Science and Forage Team Annual Training and the 2022 Regional training for Extension educators under SARE proposal #SPDP21-04), at technical service provider trainings, and national conferences and meetings. Following the original proposed timeline, outreach efforts and initial rollout of the publications will occur January 2022 in Wichita, KS in the American Forage and Grassland Council tradeshow.

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References: all references are cited in the text of the publication.

Keywords: Alfalfa; Alfalfa-bermudagrass; Alfalfa-Bermudagrass Mixtures; Alfalfa-Bermudagrass Establishment; Alfalfa-Bermudagrass Management; Alfalfa-bermudagrass use; Alfalfa-bermudagrass economics