

U.S. Department of Agriculture Accomplishments Report AD-421 U.S. Dept. of Agriculture, State Agricultural Experiment Stations and Other Institutions			Date (Month, Day, Year) 01/08/2013
1. Accession 0213447	Agency Identification No. 2. SAES 3. LAB	5. Work Unit/Project No. LAB03894	6. Status Final Report
7. Title Evaluations of Forage Legumes for Nitrogen Fertilization, Establishment, and Nutrient Utilization			
12. Investigator Name(s) (Last Name and Initials) Han, K. J.; McCormick, M. E.; Alison, M. W.; Pitman, W. D.			
20. Termination Date 12/31/2012		40. Period Covered (mo/da/year): 01/01/2008 TO 12/31/2012	
Outputs: Obtained results relating to legume interseeding management impact studies were published in two refereed journal articles. 2. Online postings were made on LSU AgCenter Forage Analysis Laboratory Blog. "Overseeding cowpeas or mung beans improves summer pasture nutritive value" http://www.lsuagcenter.com/en/our_offices/research_stations/Southeast/Features/forage_lab/forage_blog/knowning_my_forage_quality/Cowpeasandmungbeaninterseededbahigrasspasture.htm 3. Study findings were delivered to producers at the 2012 LSU AgCenter Southeast Research Station Field Day and were used by consulting producers for clover cultivar selection, management and utilization.			
Outcomes/Impacts: Outcomes of this project were able to quantify potential benefits from the cultivation of clover, field pea, and warm-season annual legumes in an attempt to enhance southern pasture quality and to save nitrogen fertilizer applications. Cool season legumes such as various Trifolium species over-seeded in warm-season perennial grass pasture were more productive than other cool-season legume options although there were obvious clover's site-specific traits in regional field test. It will be necessary that future guidelines for clover production management include abiotic variables such as soil type, soil pH, and target forage production period. Cool season grass/field pea cultivation options were studied with field peas along with several clover species as controls. Enhancing the protein content in cool-season grass was more efficiently achieved through inter-seeding cool-season legumes rather than increasing nitrogen fertilizer application rate. Other than crimson clover or berseem clover, field pea inter-seeding consistently increased protein content in the forage but did not affect the digestibility of the mixture forage because of the similarly high digestibility of both the cool-season annual grasses and the field pea. Inter-seeding field peas with commonly grown cool-season annual grasses in Louisiana may not achieve the yields typical of annual ryegrass or oats grown with moderate levels of N fertilizer.			
Publications: Han, K.J., M.W. Alison, W.D. Pitman, and M.E. McCormick. 2012. Contributions of overseeded clovers to bermudagrass pastures in several environments. Crop Sci. 52:431-441. Han, K.J., M.W. Alison, W.D. Pitman, and M.E. McCormick. 2012. Contribution of Field Pea to Winter Forage Production and Nutritive Value in the South-Central USA. Crop Sci. DOI: 10.2135/cropsci2012.04.0260.			
Participants: K.J. Han (PI), M. McCormick, W. Alison, W. Pitman, LSU AgCenter.			
Target Audiences: Primary audiences for this research were area beef, forage, equine and dairy producers; local and regional agribusiness leaders; and extension and forage researchers throughout the US.			
Project Modifications: Nothing significant to report during this reporting period.			
Approved (Signature) 		Title	Date 1-16-2013

