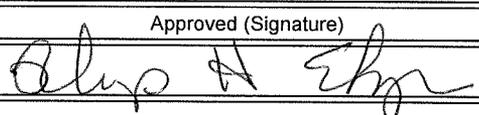


Hill Farm

U.S. Department of Agriculture <b>Accomplishments Report AD-421</b> U.S. Dept. of Agriculture, State Agricultural Experiment Stations and Other Institutions			Date (Month, Day, Year)  03/22/2012
1. Accession 0225133	Agency Identification No. 2. SAES 3. LA.B	5. Work Unit/Project No. LAB04099	6. Status Annual Report
7. Title Pasture Management Alternatives to Intensively Managed, Nitrogen-Fertilized Grasses on Louisiana Coastal Plain and Associated Soils			
12. Investigator Name(s) (Last Name and Initials) Pitman, W. D.; Alison, M. W.; Walker, R.			
20. Termination Date 02/28/2016		40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011	
Outputs: Information generated from this project was disseminated to Louisiana livestock producers through presentations at the Hill Farm Research Station field day and at meetings of two parish cattlemen's associations. Publications supported by this project include one journal article (review article) and a book chapter which were published during the year.			
Outcomes/Impacts: Indications of potential to complement the commonly used forage grasses in Louisiana were obtained for some relatively new grass and legume species and varieties for both cool and warm season use. Cool-Season Legumes: Evaluations of the effects of spring stocking treatments on regeneration of clover species resulted in differing responses by different clover species. Crimson clover stands regenerated in all treatments, while arrowleaf clover regeneration was variable among experimental units but may be more dependent on competing species such as the variable volunteer ryegrass stand than stocking treatments. Durana white clover stands regenerated in the fall of 2011 where stands from previous years were not present in the growing season of 2010-2011 (fall 2010 through spring 2011), thus effects of the spring 2011 stocking treatments were not factors in the resilience to drought identified for this white clover variety. Warm-Season Legumes: Seed production from established plots of the warm-season native legumes <i>Acacia angustissima</i> and <i>Mimosa strigillosa</i> , but not <i>Rhynchosia latifolia</i> , was substantially less than in previous years with higher growing-season rainfall. Survival of established plants of these native legumes not subjected to defoliation was not affected by the severe drought. Warm-Season Grasses: Switchgrass plants defoliated only once per year at the end of the growing season were much more vigorous and productive than plants clipped two times per year. Dallisgrass selections subjected to heavy defoliation during the extremely dry year differed in survival. Common dallisgrass plants did not survive, and differences among improved selections allowed identification of superior genotypes. Cool-Season Grasses: In contrast to results during previous years with higher rainfall, Jesup tall fescue with the MaxQ endophyte failed to regenerate in the fall following favorable rainfall after the extreme drought in the summer of 2011. Stocking treatments evaluating effects of spring grazing pressure failed to affect plant survival under the extreme drought conditions. Early results of this project indicate potential for several less-used species to contribute to forage systems based on the widely used bahiagrass and bermudagrass pastures to provide opportunities for increased productivity and efficiency of production for Louisiana livestock enterprises. Although specific management approaches remain under evaluation, particular promise for increased use of Durana white clover and commercialization of a hexaploid dallisgrass genotype may contribute substantially to efficiency of production of grazing livestock on Louisiana bottomland soils. Adaptation of selected native legumes provides possibilities for a sustainable source of summer nitrogen fixation for upland soils; however, considerable additional research is needed to develop management approaches for effective use of these species.			
Publications: Pitman, W.D. 2011. Pastures of the U. S. Western Gulf Coast Region, pp. 85-107 in Pastures: Dynamics, Economics and Management, N.T. Prochazka (ed.), Nova Science Publishers, Hauppauge, New York. Muir, J.P., W.D. Pitman, and J.L. Foster. 2011. Sustainable, low-input, warm-season, grass-legume grassland mixtures: mission (nearly) impossible? Grass and Forage Science 66: 301-315.			

Participants:		
W.D. Pitman (PI), M.W. Alison, and K.J. Han, LSU AgCenter; J.P. Muir, Texas AgriLife Research.		
Target Audiences:		
Components of this project are targeted to differing audiences with the overall audience including livestock producers, extension personnel, forage seed suppliers, and forage research scientists.		
Project Modifications:		
Nothing significant to report during this reporting period.		
Approved (Signature)	Title	Date
		3-23-12