

SPESS

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) 03/20/2012		
1. Accession 0218106	Agency Identification No. 2. CSREES 3. LA.B		5. Work Unit/Project No. LAB93979		6. Status Annual Report
7. Title Biofuel Cropping on Marginal Land in Louisiana					
12. Investigator Name(s) (Last Name and Initials) Gaston, L. A.; Blazier, M. A.; Pitman, W. D.; Wang, J. J.					
20. Termination Date 02/28/2014			40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011		
Outputs: The alternative use of animal waste fertilizer with biofuel grasses being examined in this project was introduced in a recent issue of Louisiana Agriculture that focused on water quality. Significant response of switchgrass in an agroforestry system to N fertilization, either in poultry litter or inorganic commercial fertilizer was a key issue in a book chapter. Negligible impact of P from poultry litter on runoff water quality was also highlighted in that article. These results were provided in a poster presentation at the 2011 American Society for Agronomy Meeting.					
Outcomes/Impacts: Success with miscanthus productivity was expected, however, drought throughout most of the 2011 growing season reduced yields compared with those from 2010. Yields (2010 and 2011) were spatially variable over the marginally productive soil and did not demonstrate response to N fertilization (poultry litter or inorganic commercial fertilizer). This variability may be related to the presence or absence of a shallow Bt horizon, which would affect internal drainage. In contrast, second year switchgrass yields in an adjacent study were about 10 Mg / ha (single harvest), twice those of miscanthus. Continuation of this comparative trend may indicate less potential for use of miscanthus as a biofuel crop on Western Coastal Plain soils.					
Publications: Blazier, M.A., H.O. Liechty, L.A. Gaston and K. Ellum. 2011. Poultry litter fertilization impacts on soil, plant, and water characteristics in loblolly pine (<i>Pinus taeda</i> L.) plantations and silvopastures in the Mid-South USA. p. 43-74. In E.B.O. Gungor (ed.) Principles, Application and Assessment in Soil Science. InTech. Gaston, L., and M. Blazier. 2011. Agroforestry switchgrass: Productivity and environmental quality. ASA Annual Meetings, Oct. 16-17, San Antonio. Available http://a-c-s.confex.com/crops/2011am/webprogram/Paper68374.html Wang, J.J., and L. Gaston. 2011. Land-applied animal waste and water quality. Louisiana Agriculture 54(4):16-17.					
Participants: Gaston, L.A. (PI), Blazier, M.A., Pitman, W.D., and Wang, J.J., LSU AgCenter.					
Target Audiences: Producers, Fertilizer Industry, and Alternative Fuels Industry					
Project Modifications: Nothing significant to report during this reporting period.					
Approved (Signature)		Title		Date	
					