

Ag Econ

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) 03/23/2012
1. Accession 0220420	Agency Identification No. 2. CSREES 3. LA.B	5. Work Unit/Project No. LAB94011	6. Status Annual Report
7. Title Economic Evaluation of Sugarcane Production in Louisiana			
12. Investigator Name(s) (Last Name and Initials) Salassi, M. E.			
20. Termination Date 09/30/2014		40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011	
Outputs: Information from this research project was disseminated in 2011 through one refereed article, 24 other publications, six presentations at professional conferences and 10 presentations at clientele meetings.			
Outcomes/Impacts: Economic research developed estimates of costs per acre associated with fallow sugarcane weed control programs for Louisiana. For bermudagrass and johnsongrass weed control treatments, the herbicides applied were Roundup Original Max at 46 oz per acre, generic glyphosate at 64 oz per acre, DuPont K4 60DG, Trifluralin 4EC at 4 qt per acre, and EPTC at 3.5 pt per acre. Purple nutsedge weed control treatments included Roundup Original Max at 46 oz per acre, generic glyphosate at 64 oz per acre, Permit 75DF at 1 oz per acre, and Yukon 67.5WG at 6 oz per acre. Roundup Original Max at 46 oz per acre applied for perennial weed control was more expensive by \$30.40 and \$15.20 per acre compared with generic glyphosate treatments applied at 64 oz per acre. Treatments applied with Roundup Original Max had a higher sugarcane fallow cost compared with treatments using generic glyphosate at current fuel, labor and herbicide input prices. Binary and non-binary linear programming determined optimal sugarcane fallow weed control programs for bermudagrass, johnsongrass, and purple nutsedge control. The non-binary LP model selected treatments to achieve desired control of bermudagrass, johnsongrass and purple nutsedge in a minimum cost program. In comparison, the binary LP model selected only one treatment that had minimum fallow field operation and weed control costs while satisfying minimum weed control levels. A study was completed which determined the economically optimal crop cycle length for major sugarcane varieties currently being produced in Louisiana. The specific objectives of the project included the specification of the mathematical acreage relationships which directly impact the production of a vegetatively propagated perennial crop in a whole farm context; the development of producer decision rules to be used to determine breakeven sugar levels on third stubble sugarcane crops for major varieties in the state; the evaluation of the impact of changes in production factors on developed crop replacement rules; and the optimal cycle length for current variety combinations in a whole farm context. Third stubble breakeven yields for the five most important varieties in Louisiana were indicated, that on average, third stubble should be kept in production if its production exceeds 5,063 pounds of sugar per acre. If sugar per acre yields of plantcane, first stubble, and second stubble were averaged, third stubble should be retained only if its production exceeds 74.3% of that average. Changes in production factors such as raw sugar price, diesel price, planting ratio and harvest costs indicated that this 74.3% value was not significantly affected when the changes were analyzed in a whole farm context. For all scenarios, results showed that production should be kept until third stubble; therefore, the crop cycle length should be five years.			
Publications: Caceres, Jose R. Mite, James L. Griffin, Michael E. Salassi, and Joseph M. Boudreaux, Efficacy and Economics of EPTC in Fallowed Sugarcane Fields, Journal of the American Society of Sugar Cane Technologists, Vol. 31, pp. 25-38, 2011. Salassi, Michael E., Cost Basis Valuation of Existing Sugarcane Crops on a Farm Year-End Balance Sheet, The Sugar Bulletin, American Sugar Cane League, Vol. 89, No. 4, pp. 17-18, January 2011. Salassi, Michael E., and Michael Deliberto Projected Costs and Returns, Sugarcane, Louisiana, 2011, LSU Agricultural Center, Dept. of Agricultural Economics and Agribusiness, A.E.A. Information Series No. 273 January 2011. Salassi, Michael E., and Michael Deliberto, 2011 Projected Sugarcane Production Farm Costs and Returns Model, LSU Agricultural Center, Dept. of Agricultural Economics and Agribusiness, Staff Report No. 2011-02, January 2011.			

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Waguespack Jr., H., W. Jackson, N. Blackwelder, R. Viator and M. Salassi, Improved Efficiency from Mechanical Planter Modifications, Sugar Journal, pp. 25-26, June 2011.

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Waguespack, Jr., H., W. Jackson, N. Blackwelder, R. Viator and M. Salassi, Improved Efficiency from Mechanical Planter Modifications, (abstract) Journal of the American Society of Sugar Cane Technologists, Vol. 31, p. 61, 2011.

Salassi, Michael E., Michael A. Deliberto, John Westra and Kenneth Gravois, Economic Importance of Louisiana Sugarcane Production in 2010, LSU Agricultural Center Sugar Station Annual Research Report, 2010, Louisiana State University Agricultural Center, pp. 1-3.

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Salassi, Michael E., 2011 Year-End Balance Sheet Valuation of Standing Sugarcane Crops, The Sugar Bulletin, American Sugar Cane League, Vol. 90, No. 3, pp. 17-18, December 2011.

Deliberto, Michael A., and Michael E. Salassi, Allocation of Louisiana Sugarcane Planting Costs in 2012, LSU Agricultural Center, Dept. of Agricultural Economics and Agribusiness, Staff Report No. 2011-14, December 2011.

Participants:

Salassi, Michael E. (PI), Deliberto, Michael A., Jose Mite, Juan Steer Nunes, and Paul Darby, LSU AgCenter.

Target Audiences:

The target audiences for results and recommendations developed through this research project include the sugarcane producers and other segments of the Louisiana sugarcane production industry.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
		