Iberia

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1. Accession	Agency Identification No.	5. Work Unit/Project No.	6. Status
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7. Title

Agronomic, Genetic and Environmental Research with Sugar Crops in the Teche Region of Louisiana

12. Investigator Name(s) (Last Name and Initials)

Viator, H. P.; Kimbeng, C.; Wang, J. J.

20. Termination Date 04/30/2015

40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011

Outputs:

Information on the findings of this project was disseminated at field days and grower production meetings and through presentations at scientific conferences and in appropriate publications. Changes in nitrogen (N) fertilizer rate recommendations were featured in presentations to sugarcane growers and millers at both winter production meetings and summer field days. A summary of the long-term (fourteen consecutive years) effects of residue retention on sugarcane yield was published in the Journal of the American Society of Sugarcane Technologists. Several novel approaches for remotely sensing the N status of the sugarcane plant and articulating soil management zones for N application were topics at producer meetings.

Outcomes/Impacts:

Considerable savings in N fertilizer input costs should be realized with the adoption by growers of the revised application rates. Experience gained from research trials with remote sensing technology, canopy reflectance and soil electrical conductivity, has advanced our understanding of the complexities of plant/soil interactions in the sugarcane production environment. Also, a second year of measurements of methane, nitrous oxide and ammonia emissions were made from sugarcane fields under different residue management treatments. Particulates were also profiled. For the second year, high yielding sweet sorghum hybrids of differing maturity were stagger planted to evaluate feedstock delivery scenarios necessary for biorefinery sustainability. Utilization of hybrids of varying maturity produced a sustainable supply of sweet sorghum juice of suitable BRIX from August to the first frost.

Publications:

Viator, H.P. and J.J. Wang. 2011. Effects of residue management on yield after three production cycles of a long-term sugarcane field trial in Louisiana. J. Amer. Soc. Sugar Cane Techn. 31:15-25.

Viator, S. et al. 2011. Influence of soil salinity on sugarcane. Louisiana Agriculture. 54(4):18.

Dodla, S.K. et al. 2011. Effect of nitrogen fertilization, harvesting and residue management practices on greenhouse gas, ammonia and particulate matter emissions in sugarcane production. ASA-CSSA-SSSA International Annual Meetings, October 16-19, San Antonio, TX (Agronomy Abstr.)

Kanke, Y., J. Lofton, J. Teboh, M. Dalen, P. Jaa, H. Viator, and B. Tubana. 2011. Relationship of sugarcane biomass and nitrogen uptake with canopy reflectance at different nitrogen fertilizer rates. ASA-CSSA-SSSA International Annual Meetings. 16-19 October, San Antonio, TX (Agronomy Abstr.)

Participants:

H.P. Viator (PI), C. Kimbeng, J.J. Wang, T. Hymel, LSU AgCenter; R. Johnson, USDA-ARS Sugarcane Research Laboratory.

Target Audiences:

Sugarcane and sweet sorghum growers, sugar and ethanol mill processors, federal and state environmental regulatoring agencies.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date