Food

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) 03/22/2012
1. Accession 0211168	Agency Identification No. 2. CSREES 3. LA.B	5. Work Unit/Project No. **LAB93862**	6. Status **Annual Report**

7. Title

Starch-Based Food Ingredient Development with Louisiana Commodities

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

King, J. M.

20. Termination Date 06/30/2013	40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011

Outputs:

For 2011 our research was disseminated through two presentations at national and international meetings and a patent was also issued.

Outcomes/Impacts:

Part of our research involves developing an enzymatic method to produce resistant starches. We are currently testing several controls and validating the enzymatic activity, while testing for products made by the enzyme. If successful, we will have a new enzymatic method to produce resistant starch, which acts like fiber in the body. We are also working on developing a more rapid method for determining amylose content in starches. We are analyzing the data for precision and accuracy. We have found some issues with trying to accurately analyze high amylose starches. If successful, we will have a quicker method that can be used to screen amylose levels of several samples at once. We surveyed celiac persons to find out what the issues with gluten-free products were and found that several products had problems with taste and texture. We have also looked at producing gluten-free and milk-free bread products with various flours, including rice flour, and are investigating how the starch affects the crumb texture of the bread. These research areas are still in progress. If successful we will have a new gluten-free product that has better taste and texture, characteristics acceptable to the consumer and that celiac persons could possibly consume.

Publications:

United State Patent. J.M. King and Yu Wang. Lutein Extraction from Ozone-Treated Plant Sources. US 7,943,804 B2. Issued May 17, 2011.

Bentley, A, King, JM and Prinyawiwatkul, W. Gluten-Free/ Milk-Free Products. 14th International Coeliac Disease Symposium 2011, Oslo, Norway, June 20 to 22, 2011.

Yu Jiang , Joan M. King, Rosaly V. Manaois. Thermal properties of rice starch treated with amino acids at various pHs. Presented at the IFT annual meeting, Anaheim, CA, June, 2011. Abstract # 049-06.

Participants:

J.M. King (PI), A. Prudente, Y. Jiang, and A. Bentley, LSU AgCenter.

Target Audiences:

The results of this research have been and will be presented at national and international scientific meetings. The audience for this work includes the food science community and the consumer.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
		3-23-12