

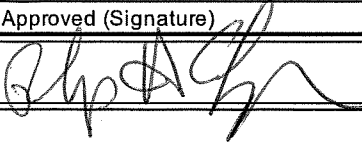
Food

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) 01/09/2013		
1. Accession 0212528	Agency Identification No. 2. CSREES 3. LAB		5. Work Unit/Project No. LAB93876		6. Status Final Report
7. Title Control of Food-Borne Pathogens in Pre and Post Harvest Environments					
12. Investigator Name(s) (Last Name and Initials) Janes, M. E.					
20. Termination Date 09/30/2012			40. Period Covered (mo/da/year): 10/01/2007 TO 09/30/2012		
Outputs: The results of this project were presented at the IAFP meeting in 2010 in Anaheim CA. as follows "G. Edwards, M.E. Janes, M. Gutierrez, S. Kerr and J. Young. 2010. Determining if the consumer method for boiling shrimp until floating effectively reduces Listeria and Salmonella species." Update results were presented at the 2011 Multi-State Project S-1033 at Fayetteville Ark.					
Outcomes/Impacts: The purpose of this study was to determine whether the current consumer method of boiling shrimp until floating and pink in color is adequate in eliminating Listeria and Salmonella species. Shrimp samples were submerged into bacterial suspensions for 30 min then allowed to air dry for 1 h, and color parameters were measured using a colorimeter. Shrimp samples were separated into groups; day 0, 1, or 2, and stored at 4 degreeC. The samples were treated by placing into boiling water (100degreeC) on days 0 (inoculation day), 1 and 2. The shrimp were immediately removed from the boiling water once they floated to the surface and color parameters were measured. Bacterial counts were determined and Log CFU/g was calculated. The effect of sodium tripolyphosphate on the color change of cooked shrimp was also determined. Initial bacterial counts ranged from 3.0 to 5.4 Log CFU/g of shrimp. On day 0, 1, and 2, all bacterial counts were reduced to non-detectable levels for shrimp samples that floated. The bacterial counts remained at non-detectable levels during refrigerated (4 degreeC) storage of cooked shrimp. The redness (a*), yellowness (b*) and lightness (L*) were significantly higher (p<0.0001) in the cooked shrimp compared to uncooked for all days tested. The standard deviation for the redness (a*) in the cooked shrimp was large indicating a wide range of pink coloration for all days tested. The results suggest that boiling shrimp until they float will significantly reduce Listeria and Salmonella species, but color change will not and color variation can occur.					
Publications: Edwards, Genevieve, Janes, Marlene, Lucina, Lampila, Supan, John. 2013. Consumer Methods to Control Salmonella and Listeria species in Shrimp. Journal of Food Protection 1:p59-64. Edwards, Genevieve, Janes, Marlene, Lucina, Lampila, Supan, John. 2013. Consumer Methods to Control Salmonella and Listeria species in Shrimp. Master thesis, May 2012.					
Participants: M. Janes, (PI), G. Edwards, LSU AgCenter.					
Target Audiences: The scientific research that has been conducted on seafood and finfish for reduction of foodborne pathogens has been developed for the food processors, which is difficult for the average consumer to understand.					



Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
		1-15-2013