

## Peer Review

----- Review 1 of 3 -----	
<b>From:</b> Peer Reviewer	
<b>submitted by:</b> Byrd, Allen ( <a href="mailto:allen.byrd@ars.usda.gov">allen.byrd@ars.usda.gov</a> )	
<b>Reviewed on:</b> 10-17-2012	
<b>Recommend:</b> Approve	
Sound scientific approach	excellent
Achievable goals/objectives	excellent
Appropriate scope of activity to accomplish objectives	good
Potential for significant outputs (products) and outcomes and/or impacts	excellent
Overall technical merit	excellent
<b>Comments:</b>	
<p>The multistate research project addresses three areas of Poultry Meat Safety, Poultry Meat Quality, and Egg Quality. Poultry Meat Safety Summary: 1. Grain particle size on Salmonella in turkeys 2. Immustim and Protimax on Campylobacter and ST in broilers 3. Water disinfectants in poultry water 4. Pathogen dissemination 5. Intervention strategies 6. Samples correlated with Post-chill using ribotyping 7. Carcass Washers in large processing 8. Estimated prevalence of pathogens 9. Listeria subtyped from raw products 10. Elimination of LM in ready to eat poultry with heat lysozymes, nisin, MAP, natural antimicrobials 11. Efficacy of belt material with microbial inhibitors 12. Penetration of muscle in marination , water activity, meat product on thermal activation 13. Detection of CJ in meat by melting-peak 14. Food grade powders 15. Natural antimicrobial films and carrier with ready to eat poultry The approaches for poultry meat safety tends to lean more on the post-harvest environment which is a trend seen in the industry. The scientists have hit on the important areas for pathogen control that can be incorporated into a control program. Although some areas could incorporate these approaches to look at a number of pathogens other than the one listed. It is a practical list. Poultry Meat Quality 1. Biological factors impacting meat quality to reduce PSE and White striping 2. Incidence of PSE and other muscle defects 3. Correlated with breeder parameters 4. Tenderness and physical attributes 5. Development/improvement of value-added poultry products- exposed to various processing or ingredients 6. Meat quality measurements (sensory or instrumental) as well as economic 7. Products will be evaluated for lipid oxidation 8. Sensory analysis of products 9. Standardization of methodology for color, pH, imaging, and sensory</p> <p>The approaches for the poultry meat quality section continue to follow the same patterns but these are answers that need to be answered. The methodology is an important area that must be addressed. Egg Safety and Quality 1. Improve of egg shell quality 2. Identification of factors associated with functional deficiencies in egg products. 3. Investigate functionality of eggs over life of hen 4. Functionality and sensory analysis of eggs 5. Sanitizing agents for eggs 6. Egg microbiological status on soy-free eggs</p> <p>The approaches for the egg safety and quality section address the needs of the egg</p>	

industry. The improved quality of egg shells does list any real specifics that this area could be expanded. (Information added, see below) Again, this section will address needs of the egg industry.

“Egg quality will be evaluated through established subjective and objective methods, such as Haugh unit, albumen height, egg weight, shell strength, and vitelline membrane strength.”

Output Output from the present grant will communicate to the industry and scientific communities. The out products will address the needs of meat technologies through the development of new methods, product formulations, new packaging technologies, and new methods for egg sanitations. The pre-harvest technologies are lacking in their output but are addressed by the media outlets. New interventions are in demand. Outcomes or Project Impacts The outcomes address the needs through the exclusion/prevention of pathogen or spoilage microorganisms. The products produced in the proposal will meet the needs of the industry by providing solutions to important post-harvest issues. This will be accomplished by new products or multi-media curriculums. Milestones The milestones are reasonable and should be met out time. Project Participation The project has good mix of proven scientist that have demonstrated ability to produce positive results. Outreach Plan See output.

The overall summary of the proposal use a good mix of qualified scientist to meet the objects. The farm to table approach is addressed in the Methods of the proposal. The only complaint is that there is not more of an emphasis in the pre-harvest approaches and a connection between these approaches to the postharvest approaches. However, with that said, the proposal is a quality approach to meeting the objects. The outcome and output should be met within the milestones time periods.

In reference to the pre-harvest approach, we will take this into consideration and address that in our future work if possible.

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<b>From:</b> Peer Reviewer	
<b>submitted by:</b> Conner, Donald E. ( <a href="mailto:dconner@acesag.auburn.edu">dconner@acesag.auburn.edu</a> )	
<b>Reviewed on:</b> 10-09-2012	
<b>Recommend:</b> Approve	
Sound scientific approach	good
Achievable goals/objectives	excellent
Appropriate scope of activity to accomplish objectives	good
Potential for significant outputs (products) and outcomes and/or impacts	excellent
Overall technical merit	good
<b>Comments:</b>	
The proposal continues to build on good body of work that has come from this multi-state group. The background material seem redundant with last project and the newly proposed	

goals, while achievable, failed to represent a "stretch" for the group. That is, the level of innovation seems lacking given past accomplishments.

This project has a solid historic track record of productivity, so continued productivity can be expected. Collaboration among the participants has been adequate and the proposed collaboration is appropriate and needed to achieve identified goals.

In summary, continued success of this group is anticipated. Given the expertise that the group has had in the past, a greater level of innovation should be expected. However, as written the proposal is adequate and will lead to new information related to poultry quality and safety.

**Thank you for the comments. We will take this into consideration as the group moves forward.**

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**From:** Peer Reviewer

**submitted by:** Lacy, Michael ([mlacy@uga.edu](mailto:mlacy@uga.edu))

**Reviewed on:** 09-13-2012

**Recommend:** Approve with revision

Sound scientific approach	good
Achievable goals/objectives	good
Appropriate scope of activity to accomplish objectives	good
Potential for significant outputs (products) and outcomes and/or impacts	good
Overall technical merit	good

**Comments:**

Overall I think this project is very good. It is well written, thought out and organized. The project and its participants have a good track record of productivity. My specific comments follow:

- Under "Poultry Meat Safety," are those 5000 deaths in the US? **Changed to 3000 with CDC reference included.**

- Suggest changing the sentence about Salmonella Standards to: "Poultry processing plants throughout the US are challenged by ever lower USDA Salmonella Standards." I think the industry is currently doing a great job meeting the standards, we are just worried that stricter standards are continuing to be proposed. **Changed as suggested.**

- On p 2, under "Poultry Meat Quality," update 2003 consumption. Change "30 years" to "40 years." **Changed as suggested.**

- On p 9, sentence about thermal inactivation, I assume GU is University of Guelph? Is

GU still involved in the project? If so, define GU. **GU/Guelph removed.**

- Delete references to "Tasker Blue." No longer relevant. **Deleted as suggested.**

- Under "Methods" consider adding other technologies in addition to "carcass washers" such as online reprocessing systems, pre-scald brushes, chiller interventions, biomapping comparisons, etc.

**Changed to:** "Effect of processing technologies such as **pre-scald brushes**, carcass washers, **online reprocessing systems, and chiller interventions** on...."

- Under "Poultry Meat Quality" suggest adding "production" (**added**) in addition to processing techniques. Correct spelling of "impacting." (**Corrected**) Aren t NC and GA also involved in "biological factors impacting meat quality."

**NC was added to this section, but GA was not at this time. Should GA decide to be involved in this section, they can in the future.**

- At end, update "Land Grant Participating States/Institutions." Only TX is listed currently.

**This was not on my copy. ??**

Again, well written, comprehensive and achievable. Well done.