

Poultry and Egg Education Project (PEEP): Curriculum for 4-H Youth Designed to Teach Safe Handling and Use of Poultry and Poultry Products

John C. Ricketts, PhD
Professor of Agricultural Education | Agricultural Sciences
Tennessee State University
3500 John A. Merritt Blvd.
Nashville, TN 37209
615.630.0526
jricket1@tnstate.edu

Sandria Godwin, PhD
Professor of Food Safety | Family and Consumer Sciences
Tennessee State University
3500 John A. Merritt Blvd.
Nashville, TN 37209
615.963.5619
sgodwin@tnstate.edu

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Introduction

The Centers for Disease Control (2011) estimates that approximately one in six Americans (~ 48 million people) is affected by foodborne illnesses, and approximately 128,000 of these people are hospitalized and 3,000 die. Both Salmonella and Campylobacter are two of a handful of pathogens that cause the most foodborne illnesses, hospitalizations, and deaths each year (2011). According to the United States Department of Agriculture (2015), raw and undercooked poultry and eggs are often associated with Campylobacter and Salmonella caused illnesses. Consumers can reduce their risk of foodborne illness from these pathogens by safely purchasing, storing, handling, and preparing poultry products and eggs. Our project developed a curriculum for youth as a means of disseminating information to society as a whole, a proven, traditional method utilized by Extension and 4-H over the years.

The multidisciplinary, multi-institutional Poultry and Egg Education Project (PEEP), funded by a 5-year USDA National Food and Agriculture Institute (NIFA) Agriculture and Food Research Initiative (AFRI) grant (Project Number TENX-2011-06512), seeks to reduce illnesses from Salmonella and Campylobacter pathogens by conducting bench science research on best practices for safe handling and use of poultry and egg products and creating science-based educational programming for consumers. This poster will describe a curriculum developed from key findings of the project.

Methodology

The content for the curriculum was developed from a content analysis of all research findings of the aforementioned grant. The following findings guided curriculum development of educational activities. The research presented in the PEEP project summaries (Godwin, 2015; Godwin, 2014a; Godwin, 2014b; Godwin, 2013) presented certain areas where consumers are lacking in food safety practices. These areas include the following practices when dealing with raw poultry and shell eggs:

- Utilize hand sanitizer and plastic bags provided at meat sections in grocery stores
- Understand safe egg purchasing
- Follow recommended storage practices for raw poultry
- Thaw poultry correctly, including not washing or rinsing raw poultry in sink
- Wash hands properly
- Store eggs and poultry at home properly
- Prevent cross contamination at grocery store and at home
- Understand thermometer use and proper food temperatures for egg dishes and poultry
- Cook egg yolks and whites until firm
- Do not consume raw or undercooked eggs

Results to Date

The PEEP Curriculum for youth, one of the major outcomes associated with a USDA-AFRI project to develop a research-based educational program comprised of consumer-focused, impactful messages addressing poultry and egg safety practices, was developed from project findings and reviewed by multiple agricultural educators at different levels. The six lesson plans and objectives herein were developed directly from the research associated with the Poultry and Egg Education Project (PEEP). A curriculum handbook, lesson plans, PowerPoints, and videos can be accessed by educators at www.tnstate.edu/tsuaged.

Advice to Others

The lesson plans are complete with requisite background information, objectives, activities, in some cases videos, and evaluations. The lessons can be integrated into standing or special 4-H programs related to food science, poultry, STEM, and health science. The lessons can also be integrated into school-based agricultural education programs, specifically in pathways related to animal science, food science, or biotechnology. Homeschool families or others seeking to introduce food safety in a way that is backed by science and not sensationalized reports in the media may also use the lessons.

Future Plans

Future plans include research to document knowledge gained as a result of the lesson plans and curriculum options for adolescents more appropriate for students of school-based agricultural education in high schools. Curriculum developers will also host train-the-trainer workshops for educators to make them aware of the materials and to demonstrate their usage.

Cost/Resources

The resources are free and available to anyone on our website. Their development was funded by the aforementioned USDA-NIFA_AFRI project.

References

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