

Meat and Poultry Safety and Quality PDG Meeting

Attendees: Melvin Carter (Chair), Frederick Adzitey, Getahun Agga, Sue Allyn, George Anderson, Laura Araujo, Cynthia Austin, Liliana Avaroma, "Bala" Balamurugan, Ronny Barrera, Greeshma Bharathan, Preetha Biswas, Micah Black, Sabrina Blandon, Melissa Bohn, Jennifer Bosquez, Deborah Briesmeister, Jessica Brown, Jessica Bruckhoff, Myrna Cadena, Michelle Catlin, Bhaswati Chowdhury, Ashley Chung, Kim Cook, Nisha Corrigan, Paula J. Cray, Courtney Crist, Jianli Dai, Mary-Grace Danao, Thomas Danisavich, Jim Dickson, Martin Duplessis, Denise Eblen, Patrick Fach, Yuyuan Feng, Suzanne Finstad, David Flicek, Sid Fuller, Rebecca Furbeck, Jacob Garman-Davenport, Jake Gilgen, Kathleen Glass, Kenisha Odessa Gordon, Jakob Gryniewski, Jisun Haan, Rob Halstead, Rita Harkless, Yosra Helmy, Joe Hirsch, Garth Hoffmann, Melinda Hollins, Hiroya Hoshino, Md Saiful Islam, John Jarosh, Justyce Jedlicka, Kimberly Jefferson, Ian Jenson, Melissa Joaquin, Sarah Johnson, Don Jones, Ron Judge, Minho Kim, Jason Knuckey, Larry Kohl, Shige Koseki, Heath LaFevers, Rosa Ledezma, Pierre-Luc Longchamps, Kyle Lunsford, Jackie Lyle, Luis Maroto-Martin, Terence martin, Eric Martin, Monica Morales, Amit Morey, Claudia Narvaez, Neda Nasheri, Megin Nichols, Rocio Nunez, Estefania Orellana-Pizzato, Katheryn Parraga, Ben Pascoe, Urmi Patel, Jane Pouzou, Jorge Rincon, Kis Robertson Hale, Dominic Rodriguez, Robert Roe, Ariana Roldan, Isaac Romero, Maria Rubio, Marcos Sanchez-Plata, Deborah Sattely, Jason Scheffler, Wayne Schlosser, John Schmidt, Keith Schuetz, Brooke Schwartz, Caroline Scranton, Hunter Sheffield, Subash Shrestha, Amy Siceloff, Katherine Sierra, Manpreet Singh, Gregory Siragusa, Erin Slutz, Rigo Soler, Kristal Southern, Shabarinath Srikumar, Sara Sterkel Colombo, Meredith Sutzko, Sudipta Talukder, Thomas Taylor, Gry Terrell, Deepa Thiagarajan, Leslie Thompson-Strehlow, Mark Turner, Jennifer Turpin, Brian Tyler, Becky Unwer, Abhinav Upadhyay, Persephone Valentine, Adwy van den Berg, Jessie Vipham, Richard Walsh, Hui Wang, Stevie Ward, Evelyn Watts, Vanessa Whitmore, Anett Winkler, Patrick Wouters, Shaelyn Xu, Eiki Yamasaki, Zhinong Yan, Lei Zhang.

Number of Attendees: 133.

Meeting Called to Order: Sunday, July 14, 2024, 2:45 p.m. Pacific Time.

Minutes Recording Secretary: Vanessa Whitmore, Shaelyn Xu.

Old Business: Dr. Melvin Carter, PDG Chair, called the meeting to order at 2:45 pm Pacific time. He began the meeting by discussing the 2023 Meat and Poultry Safety and Quality PDG meeting minutes that had been sent out to members for review from the 2023 meeting. There were no changes or amendments. Dr. John Jarosh motioned to approve the 2023 minutes as is, and Dr. Katie Rose McCollough properly seconded. The minutes were unanimously approved. Dr. Carter then read the announcement from the *Journal of Food Protection* Editors where the Editorial Board members agreed that selecting topics from the Annual Meeting for releasing *JFP* special issues, would both address state-of-the art areas and establish the liaising of *JFP*, an ultimate food safety journal, with the leading food safety community of IAFP professionals. Dr. Carter further reminded the PDG to stay aware of the IAFP Executive Board announcements. Dr. Carter introduced the Vice Chair, Dr. Alexandra Calle, Assistant Professor of Microbiology at Texas Tech University in the School of Veterinary Medicine.

New Business: Dr. Carter introduced the first speakers from the Office of Public Health Science (OPHS) where they provided an USDA FSIS Science updates covering *Salmonella* in poultry, Laboratory Methods and Procedures, Additional Updates, and USDA-FSIS Fellowship & Research Priorities. USDA-FSIS OPHS announced that as of April 1, 2024, the *Salmonella* Vaccine will be excluded from the FSIS *Salmonella* Performance standards, Genomics being used in risk assessment is a priority, as it may be helpful to predict virulence. OPHS highlighted improvements in methods relating to *Salmonella*, *Listeria*, *Campylobacter*, *E. coli*, and same day reporting. Whole Genome Sequence methodology is being expanded, and a new WGS/AST/AMR kit has been approved that can analyze more isolates of *E. coli*. USDA is building a new FSIS lab in St. Louis, MO which will open in FY2025. OPHS spoke about animal raising claims. There will be a multi-step process to substantiate claims such as raised without antibiotics and will be validated by ARS. A final rule was published in March 2024 which tightened the rules of what can be labeled "Product of USA". This title can only use this if this product was born, raised, slaughtered, and processed in the US. Highly Pathogenic Avian Influenza actions: FSIS is partnering with APHIS and ARS to do studies relating to H5N1 in dairy cows and ground beef. Lastly, OPHS highlighted the [Food Safety Fellowship for doctoral students](#). This is a remote, part time, one year fellowship offered to current doctoral students that

addresses FSIS research priorities. Applications are due August 14, 2024 at 3 p.m. Eastern Standard Time and fellows will start October 1, 2024.

Dr. Carter then introduced the second speaker, Dr. Rand Broadway from USDA-ARS in Lubbock, TX. Dr. Broadway presented a research review on Pre-Harvest Food Safety. This work primarily focused on feedlots. The goal of this research is to reduce the microbial load at harvest, while protecting animal health, human health, and the economy. A multi-disciplinary approach is important for pre-harvest interventions. Each stop for a cow along the process poses its own stressors and microbiological risks. It's likely that pre-harvest interventions may have to happen at birth to impact the immune health of calves. Post-harvest food safety is rigorous in the U.S., but we have bacteria in the food supply chain. Control of lymph node contamination is critical to preventing *Salmonella* contamination. Dr. Broadway also focused on leaky gut, and synovial fluid where *Salmonella* has been found. Connections between immunosuppression and *Salmonella*, showed that it is possible to translocate to synovial fluid. A study testing tylathromycin, Ceftiofur, Florfenicol as metaphylaxis against *Salmonella* found that they can influence resistance patterns during feeding period but does not cause MDR in *Salmonella*. Regionality showed a significant effect on shedding of *Salmonella* and seasonality showed a higher prevalence in the summer into the fall months, and higher prevalence in the South compared to the North. Dr. Broadway further shared data relating to liver abscesses correlated with fecal *Salmonella*. It was hypothesized that at some point in the GI system, that *Salmonella* escapes and goes to the liver. This study further showed that *Salmonella* was found by culture in 34.3% of nasal samples, 73.7% of ruminal fluid samples, and 81.7% of fecal samples. *Salmonella* was most concentrated in the ruminal fluid during feedlot arrival, which may increase liver abscesses. At harvest, *Salmonella* was most concentrated in feces. There may be pathogen synergism between *Fusobacterium necrophorum* and *Salmonella lubbock*.

Lastly, Dr. Broadway pointed out that *Bacillus subtilis* reduces *Salmonella* in lymph nodes when fed to cattle. Dr. Carter then introduced the third speaker, Dr. Dayna Harhay from USDA-ARS Meat Animal Research Center to speak on Methods for Rapidly detecting *Salmonella* of Increased Concern (SoC) for Human Health. There are more than 2,500 serovars of *Salmonella*, 1,600 can cause human illness with 70 commonly found in FSIS product testing. The question is which of those 70 should be prioritized because due to causing human illness. Dr. Harhay analyzed CDC data from 102,184 isolates collected over 5 years (2018-2022). Some are common in meat, but others in produce. Dr. Harhay also mentioned the *Salmonella* database in NCBI, using 8 target genes and multiplexing PCR to verify high-risk or low-risk *Salmonella*, as well as the Highly Pathogenic *Salmonella* (HPS) real-time assay for detecting virulence. Different commodities have different serovars, but 3-4 of the most common serovars can be detected using the real-time HPS assay.

Dr. Carter then introduced the fourth speaker, Dr. Emilio Esteban, Undersecretary for Food Safety from the USDA FSIS. Dr. Esteban started with recent labeling initiatives, including products from the USA. The final rule of voluntary labeling with U.S. origin claims will affect only 20% of products in U.S. Animal-raising claims will need 3rd party verification of what you want to claim. Safe-handling instructions were last revised in 1994 and a commission is coming up with recommendations to update these instructions. The world population may be protein deficient, therefore food products derived from animal cells are important and being produced. These non-traditional proteins must be labeled correctly, and a standard of identity is being discussed. Genomics will likely play a role in these guidelines and definitions. Dr. Esteban urged members to look at USDA website relating to climate change, and how it is associated with food safety. He further stated that *Salmonella* vaccines may be helpful to control top two *Salmonella* serovars and thereby knock out 20% of *Salmonella* cases. *Salmonella* enumeration is prioritized as a single cell can make a person sick. The goal is to find better enumeration methods. Lastly, Dr. Esteban spoke on H5N1 – PCR positive does not mean viable virus. Making the most practical decisions and recommendations relating to this situation is key.

Dr. Calle and Dr. Carter encouraged members to take the [survey](#) developed for the PDG members to suggest topics for 2024–2025 IAFP webinars and symposia. The deadline is October 1, 2024, to get support from this PDG to make webinars and symposia for the 2025 conference.

Vanessa Whitmore, master's student at the University of Nebraska-Lincoln, gave the updates from the IAFP Student PDG. She gave an overview of the three main events the Student PDG has put together: The Meet Your Favorite Food Scientist series of chats, the 3-Minute Thesis Competition, and Proposal Submissions for IAFP Annual Meeting. If interested in

getting involved in any of these events, please reach out to Vanessa Whitmore, Shaelyn Xu or Student PDG Chair Ivannova Litumia (ilituma1@lsu.edu).

Recommendations to the Executive Board: None.

Next Meeting Date: Sunday, July 27, 2025, Cleveland, Ohio.

Meeting Adjourned: 4:18 p.m. Pacific Time.

Chairperson Name: Dr. Melvin Carter