FOUNDATION FOCUS July 2024



Foundation Board of Directors Meets; Adopts New Name, Logo, and Mission.

The Foundation's Board of Directors met in July for the second time since the strategic decision to merge the Foundation for Meat & Poultry Research & Education and the NAMI Scholarship Foundation under the new name, Meat Foundation. The merger bolstered our commitment to continuous improvement across research, education, and scholarships. The research scope has been expanded, in line with the Protein PACT, to focus on critical areas such as food safety; nutrition; health and wellness; environment; animal welfare; and labor and human rights and serves to strengthen and broaden existing Foundation education and training programs. The scholarship program recognizes pivotal role students will play as future leaders within the meat industry. A new logo and mission, vision and values representing the future of the Foundation were adopted at the July meeting.



Mission: Our mission is to advance scientific understanding, cultivate future leaders, and support continuous improvement in the meat industry.

<u>Vision:</u> To be the leading foundation supporting meat industry advancements through scientific discovery and development

<u>Values:</u> Integrity, Trust and Transparency, Stewardship, Inclusivity

Together, these will help guide the Foundation's future as we seek to make a bold, comprehensive and significant impact in the meat industry, today and into the future.

Meat Foundation Provides Update on Beef Checkoff Funded Research.

The 2024 Cattle Industry Summer Business Meeting provided an opportunity for contractors to the Beef Checkoff to share highlights of their efforts on behalf of beef producers. Programmatic efforts on producer communications; industry information; foreign marketing; research; promotion; and consumer information were shared during the Highlights Session on July 9. The Meat Foundation, a contractor to the Beef Checkoff, provided updates on new post-harvest beef safety research and findings. Additionally, the Summer Business Meeting is the venue for prospective contractors to share proposals for fiscal year 2025 with program committees. Evaluations and committee feedback will be used to refine proposals for presentation to the Beef Promotion Operating Committee in September where funding awards will be made.

Registration Open for Meat Industry Food Safety Conference.

The <u>Meat Industry Food Safety Conference</u>, taking place September 5 – 6 in Indianapolis, Indiana, is open for registration. This premiere Conference delivers a comprehensive program on the most critical food safety-related topics and plenty of time for networking and discussion. Topics to be addressed include consumer perceptions on food safety, research updates, food safety culture, packaging's role in food safety, recalls & crisis management, and more.

The packed <u>agenda</u> includes two featured sessions:

- 1. Start with Why: Leveraging Purpose to Improve Food Safety Discover the impact of communication in engaging employees behind a strong food safety culture by leveraging company values and reinforcing the "why" behind food safety. Join Hinda Mitchell, president and founder of Inspire PR Group to understand the impact of communication in engaging employees behind a strong food safety culture.
- 2. *EHEC Testing:* What Actually Works Explore the history, challenges, research, and testing methods of *E. coli* in the meat industry and how these things are driving food safety programs for the future with Dr. Prashant Singh, associate professor at Florida State University, where his lab has focused on the development of diagnostic assays and workflow for the detection of pathogenic non-O157 strains from non-pathogenic non-O157 strains and quantification of *Salmonella* in poultry samples.

<u>Book your hotel</u> by **Monday, August 12**, to guarantee space in the block.



Foundation Scholarships Update.

The Meat Foundation is pleased to report a robust response to our scholarship program for the 2024-2025 academic year. The Meat Foundation received a near record-breaking number of applications this year including 67 undergraduate applications from 37 different universities, representing 16 majors. Ninety graduate student applications from 33 different schools representing 14 different majors were also received.

These dedicated and talented students from accredited universities, are vying for several \$5,000 scholarships as well as the prestigious \$10,000 Barry Carpenter Scholarship. This collection of merit-based awards are designed to support and inspire the next generation of industry leaders, all aiming to make significant contributions to the meat industry.

The deadline for applications was May 31st and the review committee, comprising experts from academia and the meat industry, is rigorously evaluating each application to ensure that scholarships are awarded to the most promising future professionals. The Meat Foundation is grateful for the efforts of the review committee members who bring diverse expertise and experience to this critical task. The Review Committee which consists of Phil Bass, University of Idaho; (Chair); Jeff Sindelar, University of Wisconsin; Tricia Harlan, JBT; Gary Sullivan, University of Nebraska; Trent Schwartz, West Texas A&M University; Diana Clark, Certified Angus Beef; Jessica Lancaster, National Cattleman's Beef Association; Kaitlin Compart, Smithfield; David Hayden, JBT; Morgan Pfeiffer, Oklahoma State University; Travis Arp, JBS; Brianna Buseman, Marbel Technologies, Derris Burnett, Mississippi State University; Kelsey Sindelar, Meat Institute; Kelly Vierck, University of Arkansas; Sierra Jepsen, Butcher Solutions; and Ariel Belk, Auburn University. Their dedication and time commitment ensures both the integrity and continued success of the scholarship program.

The Foundation will announce the scholarship recipients in August and is enthusiastic about the positive impact these scholarships will have on the students' educational journeys and professional futures. The Meat Foundation remains steadfast in its mission to support and empower students in order to foster growth, innovation, and excellence within the meat industry.

Fast Facts from the 2024 Power of Meat.

The most recent fast facts from the 2024 Power of Meat post featured Anne-Marie Roerink, Principal at 210 Analytics LLC, shedding light on the enduring place of meat and poultry in our diets. A robust 75% of consumers affirm that meat is a healthy part of their diet, essential for everyday energy and nutrition. Yet, approximately 30% are looking to reduce their consumption—not out of a desire to eliminate it but influenced by costs and health considerations. Roerink explains that this insight reveals a key opportunity for the meat industry: education. By highlighting the nutritional benefits, suggesting optimal portion sizes, and offering preparation tips for healthier meals, we can help consumers make informed choices without compromising on taste or budget. View and share this post and the other Power of Meat fast facts here.

CDC Posts Report on Infections Caused by Pathogens Transmitted Through Food.

The Centers for Disease Control and Prevention (CDC) published a *Morbidity and Mortality* Weekly Report focusing on the reported incidence of infections caused by pathogens transmitted commonly through food. The report summarizes preliminary 2023 Foodborne <u>Diseases Active Surveillance Network (FoodNet)</u> data and highlights efforts to increase the representativeness of FoodNet. During 2023, incidences of domestically acquired campylobacteriosis, Shiga toxin-producing Escherichia coli infection, yersiniosis, vibriosis, and cyclosporiasis increased, whereas those of listeriosis, salmonellosis, and shigellosis remained stable compared with incidences during 2016–2018, the baseline used for tracking progress towards federal disease reduction goals.

Datharan	Change from baseline	Rate in 2023	Target rate
Pathogen	(2023 compared with 2016–2018)	per 100,000 people	based on Healthy People 2030 goals
Campylobacter	22%	19.3	10.9
Cyclospora	406%	1.3	None
Listeria	No change	0.29	0.22
Salmonella	No change	13.9	11.5
Shigella	No change	4.2	None
STEC Shiga toxin-producing <i>E. coli</i>	25%	5.2	3.7
Vibrio	64%	1.0	None

Source: https://www.cdc.gov/foodnet/reports/preliminary-data.html

2023-2024 RESEARCH ADVISORY COMMITTEE MEMBERS

The Foundation's Research Advisory Committee (RAC) develops meat and poultry research priorities which serve as the basis for the Foundation's research agenda and also communicates the areas of greatest research needs to the government, public and interested stakeholders. The RAC is made up of four subgroups across minimally processed (fresh) meat and poultry safety, further processed meat and poultry safety, nutrition sciences and product quality.

Chris Bodendorfer, Johnsonville Sausage Ted Brown, Cargill, Inc. Zach Cameron, Tyson Foods, Inc. Anna Carlson, Cargill, Inc. **Kaitlyn Compart, Smithfield Foods** Kyle Donnelly, empirical foods Wade Fluckey, Clemens Family Corporation **Heather Fowler, National Pork Board** John Handley, III, OSI Group

Collette Kaster, AMSA Pat Mies, National Beef Packing Co. Sue Schwartz, Ed Miniat LLC Subash Shrestha, Cargill, Inc. Sally Staben, Hormel Foods Corporation Ben Stellmacher, Johnsonville Sausage, LLC Tommy Wheeler, USDA, ARS, U.S. Meat Animal **Research Center Barry Wiseman, Triumph Foods**

2024 BOARD OF DIRECTORS

The Foundation Board of Directors are selected by the Meat Institute's Nominating Committee and elected by the membership of the Meat Institute. The Board provides strategic direction, financial leadership and acts upon recommendations from the Foundation's Research Advisory Committees/Chief Scientist and the scholarship review committee. Terms are for three years.

Al Almanza, JBS Foods USA -- Chair Kirby Childs, Ph.D., Greater Omaha Beef Packing -- Vice Chair Jonathan Amidei, Swaggerty's Sausage Co. Edwin Botero, Viz Cattle Corp. dba SUKARNE Louis Eni, Dietz & Watson, Inc. **Brad Hamilton**, Seaboard Foods Meredith Healan, FPL Food LLC Christopher J Jenkins, Catelli Brothers Inc. Shane MacKenzie, Superior Farms Steven Maxey, Certified Meat Products Scott Rich, Wasatch Meats Don Schanbel, Amcor Kevin Sheehan, National Pork Board Donald Thomas, Jack Links Beef Jerky Suzanne Strassburger Reidy, Strassburger Meats/Suzy Sirloin Inc.

CURRENT FOUNDATION RESEARCH PROJECTS

Understanding the impact of the farm and lairage environments on Salmonella contamination in market hogs, University of Wisconsin-Madison, Kansas State University, **Texas Tech University, USDA-ARS**

Salmonella contamination in market hog tonsils, lymph nodes, feces, and cecal contents likely occurs rapidly, and previous research suggests that the lairage period provides risk for cross contamination to occur. The study objectives are to detect and quantify Salmonella from market hogs on-farm, at lairage, carcass swabs, and lymph nodes. The Salmonella isolates will be characterized to determine their serotype and the presence of highly pathogenic Salmonella at the different stages of sampling. Salmonella concentration and serotypes in post-harvest samples will be evaluated to determine if it most closely represents Salmonella contamination on-farm or from lairage, and the impact of time spent in lairage.

Funded in part by the National Pork Checkoff.

Survival of African swine fever in pork and processed pork products, Canadian Food Inspection Service, Agriculture and Agri-Food Canada

African Swine Fever (ASF) is a contagious, haemorrhagic viral disease of pigs that is currently spreading westwards throughout Europe and eastwards into China, with significant economic losses along its path. While strict regulatory guidelines are in place to prevent the spread of this virus, little is known about the effectiveness of current meat processing methods in inactivating ASF. In addition, the matrix effect of individual meat products and ingredients on ASF survival is not well documented. This project aims to explore the survival of ASF in different meat products from ASF infected pigs as well as investigate the effect of different ingredients, cooking temperature, storage time and high-pressure processing on ASF inactivation in different meat model systems. Funded in part by the National Pork Checkoff under an ASF Partnership and administered by the Foundation.

A surveillance of Salmonella in the lymph nodes of sows and boars, Kansas State University, **Texas Tech University**

Salmonella contamination remains the leading food safety concern for pork products. The contribution of Salmonella in the lymph nodes in sows and boars is unknown. This study will determine Salmonella prevalence and concentration in the lymph nodes (subiliac, mesenteric, tracheobronchial, inguinal, axillary, pre-scapular) and tonsils of sows and boars at harvest. The impact of season and region on Salmonella prevalence and concentration in the lymph nodes of sows and boars will be evaluated. Positive samples will be serotyped.

Effect of minimally processed animal protein within the Dietary Guidelines for Americans on biomarkers for cognitive decline, South Dakota State University

Investigators will leverage an ongoing well-designed, randomized, controlled, crossover, feeding study following USDA Dietary Guidelines for Americans to establish the role of lean animal protein in cognitive health promotion. A minimally processed lean meat incorporated diet will be compared with an isocaloric lacto-ovo-vegetarian control. It is expected the addition of animal protein will enhance nutrient adequacy and reduce markers associated with cognitive decline and neurodegenerative diseases.

CURRENT FOUNDATION RESEARCH PROJECTS, CONTINUED

Creating Alternative Support for Lethality and Stabilization for Heat Treated and Fully Cooked Meat and Poultry Products, University of Wisconsin, HansonTech

Nearly all meat processors in the United States utilize USDA, FSIS Appendices A and B to ensure adequate thermal lethality and stabilization is achieved for partially and fully cooked products. Through the development and release of updated versions in 2017 and 2021, and the realization that a host of potential food safety vulnerabilities exist, the widespread usefulness and inplant practical application of these guidance documents has become a significant concern and practical challenge to implement. The primary objective of this study is to develop a scientific-based, regulatory-supported, and industry-useful thermal processing and cooling resource (e.g., cooking, and cooling food safety handbook) for validating pathogen destruction and control, and regulatory compliance for partially and fully cooked meat products that can be used in conjunction with or in lieu of USDA, FSIS Appendices A & B.

Funded in part by the Beef Checkoff.

Revealing mechanisms for internal Salmonella colonization and persistence in porcine lymphoid and fat tissue, USDA-ARS-NADC - Food Safety and Enteric Pathogens Research Unit Swine can become persistently infected with Salmonella, shedding little to no bacteria in the feces, until subjected to a stressful event, which increases fecal shedding. A clear understanding of the mechanisms of Salmonella persistence in porcine immune cells is needed to developing targeted intervention strategies to significantly reduce Salmonella carriage in swine and the risk of contamination of products and the environment. The overall hypothesis is that Salmonella resides in myeloid-lineage cells in porcine lymphoid tissues and fat, and subsequently modulates the cellular state to limit bacterial clearance. The objectives of this project are to identify the cell types harboring Salmonella in pig lymphoid and adipose tissue at various stages of colonization; characterize the cellular response; and identify mechanisms of intracellular colonization.

Funded in part by the National Pork Checkoff.

Summarizing the current knowledge and existing knowledge gaps for pre-harvest and post-harvest Salmonella contamination in pork, Kansas State University, Triumph Foods
Research on pre-harvest and post-harvest measures to prevent or reduce pathogen contamination have been published. However, knowledge gaps still remain, and a thorough literature review is necessary to fully understand what steps should be taken to address Salmonella concerns both preharvest and post-harvest in the swine. Therefore, this project will conduct a thorough search of pre-harvest and post-harvest Salmonella research in swine; compile the literature and prepare a written review of the existing knowledge. Knowledge gaps and research recommendations will be identified. NAMI members/volunteers will serve as focus group participants to ensure all current knowledge is considered.

Funded in part by the National Pork Checkoff.

Characterizing Salmonella Isolates from Ground Beef in the United States, Texas Tech University, Kansas State University, University of Georgia, USDA-ARS, Meat Animal Research Center, Food Safety Net Services

It is hypothesized that *Salmonella* serotypes and presence of highly pathogenic *Salmonella* (HPS) in ground beef will vary by geographic location and season depending on the facility. Samples obtained from a separate study will be analyzed to determine the *Salmonella* serotype(s) present in each positive sample and the presence of HPS associated with U.S. ground beef.

BEEF INDUSTRY

FOOD SAFETY

COUNCIL

Funded in part by the Beef Industry Food Safety Council.

FUNDED BY BEEF CHECKOFF AND ADMINISTERED BY THE FOUNDATION

Enhanced Characterization of Sequence Differences Among Salmonella isolates within SNP Clusters Identified by the NCBI Pathogen Detection System, USDA-ARS, Meat Animal **Research Center**

This research intended to better understand the full picture of relatedness within critical Salmonella serovars of interest by performing a comparative genomic analyses on currently available data within the Pathogen Detection Isolates Browser (PDIB). An analysis pipeline was developed to catalogue Salmonella single nucleotide polymorphisms (SNP) cluster diversity in the NCBI PDIB. A subsequent project will look at genomes from beef Salmonella outbreaks to characterize the genomic variation between sequenced isolates related to the outbreak to demonstrate the usefulness of the pipeline.

Developing a Quantitative Salmonella Baseline from Ground Beef in the United States, Texas Tech University, Kansas State University, University of Georgia, USDA-ARS, Meat Animal **Research Center, Food Safety Net Services**

The Salmonella level in ground beef across the U.S. is unknown. As a result, risk assessments and understanding the public health impact of potential Salmonella control programs across the industry are not always accurate. This study intends to conduct a representative Salmonella baseline and develop a blinded quantitative Salmonella baseline for the U.S. beef industry representing seasonal and geographical waves.



4201 Wilson Blvd. Suite 0604 Arlington, VA, 22203