

FOUNDATION FOCUS



BOARD APPROVES RESEARCH RECOMMENDATIONS

The Foundation's Board of Directors met in January 2020 to review and approve an ambitious research agenda for 2020. The Foundation's Research Advisory Committee recommended seven projects addressing whole genome sequencing to determine the relatedness of outbreak isolates; evaluating the efficacy of antimicrobials at or above allowable pick up levels; improving validation methods for *Salmonella* lethality on the surface of meat and poultry products; assessing the effects of consuming different proportions of red meat in a healthy dietary pattern on cardiovascular risk factors; among other research priorities. Once initiated, detailed information on the projects will be made available in future newsletters. Projects will be funded by industry contributions to the Foundation, the Beef Checkoff as appropriate, or jointly funded between the two or with other entities. The Foundation is a contractor to the Beef Checkoff to administer research on post-harvest beef safety and processed beef nutrition.

The Foundation's Research Advisory Committee will meet in the spring to identify research topics for the 2020-2021 request for proposals.

A NOTE ON COVID-19

During the global pandemic, consumers are curious whether coronavirus can be transmitted through food. While there is no evidence that suggest COVID-19 can be transmitted by food or food packaging, it is always important to follow [good hygiene practices](#) (i.e., wash hands and surfaces often, separate raw meat from other foods, cook to the right temperature, and refrigerate foods promptly) when handling or preparing foods. The Foundation encourages you to check several federal resources periodically for updates on Coronavirus. [CDC](#), [USDA Q&A](#), [FDA Q&A](#), [coronavirus.gov](#). Stay home, stay safe and healthy.

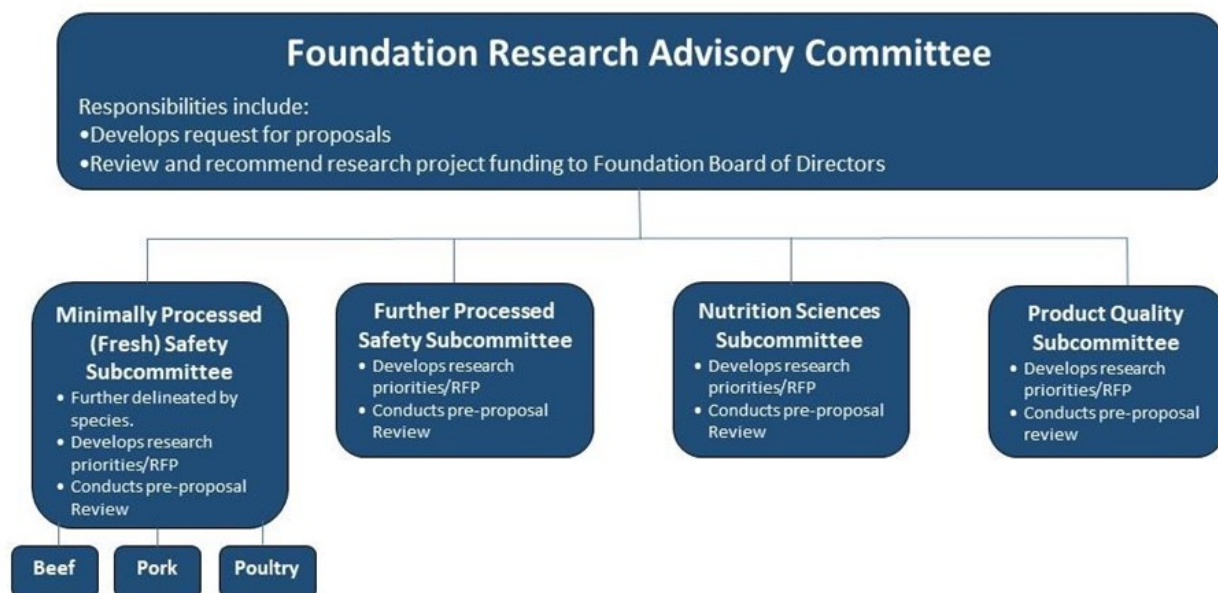
NEW RESEARCH ADVISORY COMMITTEE STRUCTURE TO GUIDE THE FOUNDATION FORWARD

The Foundation for Meat and Poultry Research and Education (Foundation) Research Advisory Committee (RAC) is comprised of members from industry, academia and government. This group meets periodically throughout the calendar year to develop 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.

For nearly two decades, the RAC has guided meat and poultry safety research. The Foundation's research agenda was expanded in 2018 to include nutrition sciences, product quality, and animal production as it relates to antibiotic use. In order to ensure appropriate expertise in each research topic area, the RAC is being reconfigured in 2020.

The new RAC will be made up of four subcommittees across minimally processed (fresh) meat and poultry safety, further processed meat and poultry safety, nutrition sciences and product quality. The minimally processed safety subcommittee is further divided by species due to specific research priorities and needs. Subcommittee members can be a part of the broader RAC (see figure). The RAC also serves in an advisory capacity to recommend and direct post-harvest beef safety research and processed beef nutrition research under the Foundation's Beef Board authorization request.

Each subcommittee of the RAC will convene separately to identify research priorities and recommend topics for inclusion in the request for proposals (RFP). The RAC will take all recommendations into consideration as it finalizes the RFP for distribution to the research community. Pre-proposals submitted in response to the RFP will be reviewed by the appropriate subcommittee(s). Select proposals will be recommended for a more comprehensive submission. The RAC will review the submissions and make recommendations for funding to the Foundation Board of Directors.



Contact [Susan Backus](#) or [KatieRose McCullough](#) with any questions.

A GUIDE TO MEAT PROCESSING FOR THE NUTRITION COMMUNITY

At the Dietary Guidelines Advisory Committee's (DGAC) fourth meeting on Jan. 23 - 24, 2020, in Houston, Texas, Foundation President Susan Backus detailed a white paper that would be submitted to the DGAC to help demystify processed meats by detailing common processed meat products and ingredients; as well as nutrition benefits and public health implications.

[The white paper](#) entitled "A Guide to Meat Processing for the Nutrition Community," was prepared by KatieRose McCullough, Ph.D., MPH, Senior Science Advisor of the Foundation.

The paper will help the Dietary Guidelines Advisory Committee as well as the wider nutrition community to better understand the science underpinning meat and processing nomenclature, product labeling claims, and ingredient safety.

Included in the white paper are sections to define meat, explain the benefits of processing meat and the types of processing. There are sections on meat processing ingredients, nutritional benefits of processed meat and information about the perceived public health concerns.

At the conclusion of the paper are tables of common terms and their definitions and uses.

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CURRENT FOUNDATION RESEARCH PROJECTS

How Does Analytic Approach Impact Pathogen Population Structure When Analyzing Whole Genome Sequence Data?, University of Minnesota, IBM

The overall goal of this project is to support an accurate, reproducible, transparent and uniform approach to whole-genome sequence analysis for purposes of outbreak detection and pathogen surveillance. The overarching objective is to demonstrate how different analytic approaches to whole-genome sequence analysis can impact analysis results.



Research funded in part by the Beef Checkoff.

Effects of Red Meat Consumption on Gut Microbiota in Young Adults, Purdue University, University of Colorado

Gut microbiota are an important contributor to human metabolic health and the impact of animal-based foods, unprocessed and processed red meat in particular requires investigation. Results from a recent study with rats suggest that consuming processed vs. unprocessed red meats may differentially influence gut microbiota profile. This project intends to determine the effect of unprocessed and processed red meat on gut microbiota.



Research funded in part by the Beef Checkoff.

Meat as a First Solid Food on Risk of Overweight and Neurodevelopment in Infants, University of Colorado Anschutz Medical Campus, University of Colorado Denver

Early complementary feeding is a unique and malleable period to prevent rapid weight gain and later obesity, and is also a critical phase for neurodevelopment. Meat is an excellent source of high-quality protein and micronutrients, which are critical for the normal development of older infants. This research will conduct a randomized controlled trial to comprehensively evaluate the effect of meat on growth, body composition, risk of overweight and neurodevelopment, with a protein intake at the reported population median. Findings from this study will be generalizable and help inform future dietary guidance.



Research funded in part by the Beef Checkoff.

Pathogen Growth in Alternatively Cured Ham and Bacon during Cooking, Cooling, and Process Deviations, Iowa State University and Smithfield Foods

The overall goal of the project is to determine the inhibitory effect of nitrite from a natural source (i.e., pre-converted celery juice powder) in processed meat products with a natural label during “real world” cooking and chilling procedures, which often include instances of process deviation, as well as non-continuous cooling.

CURRENT FOUNDATION RESEARCH PROJECTS (CONT.)

Validating Growth Models for *Clostridium perfringens*, *Clostridium botulinum*, and *Bacillus cereus* during Cooling of Uncured Meat and Poultry Products, University of Wisconsin

This project will develop data to determine the validity of the revised Option 2 cooling guidelines for uncured meat products, specifically to determine if Phase 1 cooling (from 120 to 80°F) can be extended from the currently outlined 1 hour limit. Uncured turkey breast meat will be used in the model.

Research funded in part by the Beef Checkoff, Beef Industry Food Safety Council, and the U.S. Poultry and Egg Association.

Tests of *Salmonella* Sub-unit Proteins as Vaccines for Broiler Chickens, USDA-ARS U.S. National Poultry Research Center

This project will identify the *Salmonella* protein antigens that are able to induce humoral immune response in broilers, and consequently these antibodies can prevent *Salmonella* colonization in the broiler gastrointestinal tracts.

Validation of Post-Harvest Antimicrobial Interventions to Control *Salmonella* on Market Hog Carcass Surfaces and Pork Products, Kansas State University

This study will validate the efficacy of lactic acid, sulfuric acid sodium sulfate, bromine, 180°F water, and peracetic acid as post-harvest interventions against *Salmonella*, as well as the impact on product color attributes, on pork carcasses and trim.

Research Priority Setting Meeting for Certain By-Products

There is limited research on the impact of rendering on foodborne pathogens, particularly with the implementation of the Food Safety Modernization Act. The Foundation will work with allied stakeholders in the rendering, pet food and cosmetic industries throughout North America to assemble a meeting where industry standards can be discussed to better inform future research priorities and projects. There is a dearth of critical parameters for this type of research.



THANK YOU TO THE FOUNDATION'S 2020 CONTRIBUTORS

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