

MARY K. MUTH

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Summary of Professional Experience

Mary K. Muth is a food and agricultural economist focusing on food demand, consumption, and pricing; food labeling; food loss and waste; food safety; nutrition; and related topics. Most recently, she was a Research Agricultural Economist at the U.S. Department of Agriculture, Economic Research Service and previously was Senior Director, Food Economics & Policy at RTI International. She has extensive experience with using multiple modes of primary data collection; analyzing food availability, purchase, and consumption data; assessing and improving data quality and usability; and developing economic models of the impacts of food policy and interventions. Dr. Muth has presented her research at numerous conferences and workshops, has published a book on using scanner data for food policy research, and has published papers in the *Journal of Law and Economics*, *American Journal of Agricultural Economics*, *Journal of Agricultural and Resource Economics*, *Public Health Nutrition*, *Nutrients*, *Nutrition Reviews*, *Journal of the Academy of Nutrition and Dietetics*, *Nutrition Journal*, *Journal of Food Protection*, *Food Protection Trends*, and other journals. She has testified before Congress and briefed congressional and administration staff on study results. She served on the National Academies of Sciences, Engineering, and Medicine (NASEM) committees “Strategies to Reduce Sodium Intake” and “Examination of the Adequacy of Food Resources and SNAP Allotments” and was chair of the NASEM steering committee on “Data and Research to Improve the U.S. Food Availability System and Estimates of Food Loss.”

Education

PhD, Economics, North Carolina State University, Raleigh, NC, 1997.

MS, Agricultural Economics, Cornell University, Ithaca, NY, 1989.

BS, Agricultural and Managerial Economics (with High Honors), University of California, Davis, CA, 1987.

Professional Experience

2024 to 2025. U.S. Department of Agriculture, Economic Research Service, Food Economics Division, Cary, NC. ***Research Agricultural Economist.***

1997 to 2024. RTI International, Center for Applied Economics and Strategy, Research Triangle Park, NC. ***Senior Research Economist and Director*** (2004 to 2024).

1996 to 1997. North Carolina State University, Department of Agricultural and Resource Economics, Raleigh, NC. ***Instructor.***

1992 to 1997. North Carolina State University, Department of Agricultural and Resource Economics, Raleigh, NC. ***Graduate Research Assistant.***

1990 to 1992. NationsBank, N.A., Norfolk, VA. ***Financial Analyst.***

1987 to 1989. Cornell University, Department of Agricultural Economics, Ithaca, NY. ***Research Support Specialist, Teaching Assistant, and Graduate Research Assistant.***

1984 to 1987. University of California, Davis, School of Veterinary Medicine, Department of Epidemiology and Preventive Medicine, Davis, CA. *Undergraduate Research Assistant.*

Selected Project Experience

Research to Reduce Consumer Food Waste in the United States (2023 to date)—*Senior Advisor for Economic Analysis.* Under a grant with the Environmental Protection Agency, supporting a study being conducted by researchers at the University of North Carolina, Chapel Hill, to develop and test a household food waste intervention. Estimating the costs and environmental benefits associated with the intervention if scaled to the national level, calculating cost-effectiveness measures, and preparing a manuscript for publication in a peer-reviewed journal.

Developing Measures of the Food Price Environment (2016 to 2024)—*Project Director.* For USDA, ERS, developed and implemented methods for measuring the food price environment by geography. Constructed projection factors for store-based scanner data, mapped foods in the retail scanner data to ERS food codes, calculated food price indices and unit values, created the ERS Food-at-Home Monthly Area Prices (F-MAP) database, and contributed to an ERS technical bulletin. Constructed longitudinal weights for households that participate in the household scanner data panel over multiple years. Organized and conducted 2-day workshop for researchers using scanner data to discuss characteristics of the data and their application to food economics research.

Literature Review on the Status of Health Equity Research as it Relates to FDA Programs and Policies (2021 to 2024)—*Project Director.* For FDA, conducted an initial scoping literature review to assess the primary approaches to addressing health equity in analyzing the effects of FDA's programs, policies, and regulations; the key findings regarding differential effects across demographic groups; and methods used by other agencies and organizations to define and address health equity. Conducted a second scoping literature review on the effects of misinformation on health equity, including misinformation during the COVID-19 pandemic. Conducted analyses of the effects of misinformation on decisions to obtain the COVID-19 vaccine.

Consumer Labeling Research (2022 to 2024)—*Senior Advisor.* For the U.S. Department of Agriculture (USDA), Food Safety and Inspection Service (FSIS), conducted a study to develop effective labeling for raw meat and poultry products to motivate consumers to follow recommended safe food handling practices. Conducted a literature review and listening sessions with stakeholders; designed prospective new labels; and conducting focus groups and a consumer survey to evaluate the new labels.

Effects of SNAP Participation on the Healthfulness of Food Purchased by Households with Children during the COVID-19 Pandemic (2022 to 2024)—*Principal Investigator.* Under a grant with the Robert Wood Johnson Foundation (RWJF), Healthy Eating Research (HER) program, conducted a study to determine how economic disruptions due to the COVID-19 pandemic and concurrent changes in the Supplemental Nutrition Assistance Program (SNAP) affected the nutritional quality of food purchases by households with children. Using household-based scanner data, compared measures of nutritional quality of food purchases between households with children that participate in SNAP versus nonparticipants and assessed whether changes in SNAP during the pandemic resulted in improvements in the nutritional quality of food purchases.

Dietary Supplements Literature Review (2022 to 2023)—*Project Director.* For the U.S. Food and Drug Administration (FDA), conducted a scoping literature review on the dietary supplements industry, including consumer use of, preferences for, and attitudes toward dietary supplements; positive and negative health outcomes associated with dietary supplement use; dietary supplement production, distribution, and marketing; and regulatory concerns associated with dietary supplements.

Analyzing Consumers' Value of "Product of USA" Labeling Claims (2021 to 2023)—*Senior Advisor.* For USDA, FSIS, conducted a study to determine whether consumers notice and understand the "Product

of USA” labeling claim and to estimate consumer willingness to pay for meat products with the “Product of USA” labeling claim under alternative definitions of the claim. Advised on the design of the web-based survey and analysis to inform FSIS policy.

Examining the Effects of Taxes and Warning Labels on Parents’ Purchases of Sugar-sweetened Beverages Using a Choice Experiment (2021 to 2023)—*Senior Advisor*. Under a grant with the RWJF, HER program, conducted a randomized discrete choice experiment study to investigate whether warning labels on sugar-sweetened beverages alter the effectiveness of a tax on sugar-sweetened beverages on intended purchases by parents of young children. Advised on the design of the online choice experiment and analysis to quantify how sensitive sugar-sweetened beverage purchases are to changes in taxes and warning labels, particularly across low-income, Black, and Latinx households.

Retail-Level Loss Factors for the Loss-Adjusted Food Availability (LAFA) Series (2018 to 2023)—*Principal Investigator*. For USDA, ERS, conducted a study to develop a methodology for estimating commodity-specific retail loss factors from a nationally representative survey of supermarkets, supercenters, and club stores in the United States and to obtain information on drivers of retail food loss. Conducted interviews with retailers on calculating measures of retail food loss using data on food shipments, food sales, and food donations.

Updated Estimates of Consumer Food Loss Factors for Assessing Progress in Reducing Food Loss and Waste (2020 to 2022)—*Principal Investigator*. For USDA, ERS, calculated updated estimates of consumer-level food loss for 2014 and 2018 for assessing progress on USDA’s food loss and waste reduction efforts. Using IRI Consumer Network household scanner data, IRI InfoScan store scanner data, and National Health and Nutrition Examination Survey dietary recall data, developed food loss estimates by commodity before and after the announcement of USDA’s food loss and waste reduction goal.

Estimation of International Agricultural Trade Elasticities (2020-2022)—*Project Director*. For the USDA, Foreign Agricultural Service, contributed to a study led by Virginia Tech to develop new estimates of import demand elasticities and Armington elasticity of substitution for use the USDA Trade Impact Model. Assessed the quality and coverage of the trade elasticities generated by Virginia Tech and Purdue University for use in the model and tested the feasibility of updating the elasticities in the model.

Understanding the Public Health Significance of the Children’s Food and Beverage Advertising Initiative (CFBAI) (2020 to 2021)—*Principal Investigator*. For RWJF, HER program, conducted a commissioned analysis to evaluate the effect of the change in the CFBAI criteria for advertising food and beverages to children. Using household scanner data linked to nutrition label data, determined the contribution of products on the CFBAI list to purchases by households with children (0–8 years), simulated the potential effects of reformulation resulting from the change in the criteria for 2020, and measured the relative importance of products on the CFBAI list to substitute products.

Evaluation Technical Assistance (2017 to 2020)—*Co-Principal Investigator*. Under a grant with RWJF, provided technical assistance for evaluation of voluntary industry initiatives. Working with the Alliance for a Healthier Generation and Partnership for a Healthier America, developed approaches to evaluating the impact of industry agreements to improve healthfulness of foods, including developing logic models; documenting the industry and policy context, understanding consumer responses; and identifying methods and metrics to evaluate impacts on the availability, consumption, and pricing of healthier foods and beverages.

U.S. Trade Impacts Model (2017 to 2021)—*Senior Advisor*. For USDA, Foreign Agricultural Service, advised on the development of a computation model to quickly analyze the impacts of potential policy changes such as tariffs and trade restrictions on U.S. exports of food and agricultural products. The model includes approximately 700 categories of products and allows users to select policy options and obtain estimates of changes in trade flows and market prices based on a partial-equilibrium modeling approach.

Economic Studies of Food and Drug Administration (FDA) Regulations (2014 to date)—*Contract Manager*. For FDA, directing and advising on studies of the effects of public health policies, including nutrition and food safety policies, on consumers and producers. Studies include statistical analyses of primary and secondary data sources, analysis of scanner data, literature reviews, conducting of expert panels and key informant interviews, and development of simulation models.

Program Studies Related to Food Safety (2004 to 2024)—*Contract Manager*. For FSIS, directed and advised on studies of the effects of public health policies related to the meat, poultry, and egg products industries. Studies include conducting surveys of consumers and producers, conducting statistical analysis of primary and secondary data, developing educational materials, and conducting expert panels.

Food Waste and the Environment (2017 to 2020)—*Principal Investigator*. For a study with the National Science Foundation's Socio-Environmental Synthesis Center (SESYNC), assessed the environmental and ecological impacts of food loss and waste across regions of the United States from input sources in agricultural production through disposal of food waste. Defined types of impacts, assessed measurement methods, identified data sources, developed a model to assess the effects of potential food waste interventions, and conducted cost-effectiveness analyses of four food waste interventions. Served as a mentor to a SESYNC postdoctoral researcher.

Modernizing Safe Handling and Ready-to-Eat/Not-Ready-to-Eat Labeling Instructions (2017 to 2020)—*Senior Advisor and Lead Economist*. For USDA, FSIS, conducted research to develop options for updating the Safe Handling Instructions (SHI) label on all raw and partially cooked meat and poultry products. Conducted cost-benefit analysis of updating the SHI label using results of predictive modeling of changes in foodborne illness due to the updated label, foodborne illness cost-of-illness estimates, and estimates of industry compliance costs.

Studying the Impact of Food Reformulation on Child and Adolescent Obesity and What Motivates Food Manufacturers to Reformulate Foods (2017 to 2019)—*Principal Investigator*. Under a grant with HER, a national program of RWJF, examined whether reformulation of foods consumed by children and adolescents has generally improved healthiness of foods and the relative prices of healthier products within product categories. Analyzed store-based scanner data linked with nutrition label data to assess reformulation types and frequencies and simulated the potential effects of reformulation on the healthiness of foods in the marketplace.

Development and Validation of Pictorial Methods for Portion Size Estimation in Malawi (2016 to 2018)—*Technical Advisor*. Under the RTI Food Security and Agriculture initiative and in collaboration with the Tufts University International Dietary Data Expansion Project, advised on a study to develop, evaluate, and validate methods of visually representing portion sizes during dietary data collection in low-income countries. Determining and developing appropriate portion size estimation aids (PSEAs) and validating the use of PSEAs against weighed food portions among a sample of 300 women in rural and urban Malawi.

Expert Technical Panel on Technical Questions and Data Gaps in the ERS Loss-Adjusted Food Availability Data Series (2016 to 2018)—*Principal Investigator*. For ERS, conducted an in-depth evaluation of the Loss-Adjusted Food Availability Data Series and developed recommendations to resolve technical questions to improve the data series. Identified relevant experts, convened expert panel meetings, assessed available data and analysis approaches, and developed recommendations.

Using Trials of Improved Practices to Test Strategies for More Optimal Nutrition in Underweight and Overweight Children in Rwanda (2016 to 2018)—*Technical Advisor*. Under the RTI Food Security and Agriculture initiative, advised on the identification and testing of behaviors to achieve more optimal dietary intake among underweight and overweight children 6 months to 5 years of age in Rwanda. Conducted formative research with 120 households with children in an urban area and a rural area to identify practices for use in future intervention studies.

Consumer-Level Food Loss: An Update of Estimates for Cooking Loss and Uneaten Food at the Consumer Level (2016 to 2017)—*Principal Investigator*. For ERS, developed estimates of consumer-level food loss for use in the Loss-Adjusted Food Availability Data Series. By food category, calculated differences between total food purchases using household purchase data and food consumption using the National Health and Nutrition Examination Survey dietary recall data with adjustments for inedible portions and moisture gains and losses.

Economic Model to Predict Consumer Behavioral Response to Health Information and Warnings (2015 to 2018)—*Senior Advisor*. Advised on the design and development of an operational model that can be used to predict the effects of health information and warnings on consumer behavior. The model was based on economic theory and integrates direct and indirect evidence from the literature, econometric estimates, and expert panel estimates and uses IRI and Nielsen scanner data on a broad range of products under the FDA's jurisdiction.

Analytical Modeling (2014 to 2017)—*Project Director*. For FSIS, advised on the design and implementation of helpful alerts in the Public Health Inspection System and the design and implementation of analytical models in support of the Agency's food safety and food defense initiatives.

Safe Food Handling Instructions (2014 to 2016)—*Lead Economist*. For FSIS, contributed to qualitative research to understand consumers' use and understanding of the safe handling instructions on raw meat and poultry products. Conducted a cost-benefit analysis to determine if the value of the benefits in terms of reduction in the incidence of foodborne illness would exceed the estimated cost to industry of complying with a required change in the label.

Expert Panel to Estimate the Costs of Food Safety Investments (2014 to 2015)—*Senior Advisor*. Using an expert panel process, developed estimates of costs of capital equipment, labor, materials, and other costs associated with food safety investments made by meat and poultry slaughter and processing establishments under FSIS's jurisdiction. Estimates were developed by establishment size and type for developing food safety plans, conducting food safety training, operating antimicrobial equipment, conducting third-party audits, and conducting pathogen testing.

FDA Reformulation Cost Model (2014 to 2015)—*Project Director*. Developed and maintained the FDA Reformulation Cost Model that allows analysts to estimate per-formula and total industry costs of reformulation while accounting for variations in food formulation complexity, company size, reformulation type, and compliance periods. Incorporated Nielsen store scanner data, cost estimates developing using an expert panel process, and relevant assumptions to develop an Excel-based model that allow users to select model inputs and obtain estimated industry costs.

Understanding the Statistical Properties of IRI Store-based and Household-based Scanner Data (2013 to 2017)—*Co-PI*. For ERS, conducted a comprehensive evaluation of the IRI data used for a broad range of food and nutrition policy research studies. Compared methods used to collect data on household purchases from the panel, methods used to determine or estimate prices for foods, and sources and methods of assigning nutrient values to foods and comparing the data to other government and proprietary sources. Organized and conducted a 2-day workshop in April 2016 for data users on the properties of the data and results of analyses using the data. Conducted a feasibility study on approaches to developing weights for store-based scanner data.

Value Propositions in the Selection of Foods (2013 to 2015)—*Project Director*. For the International Life Sciences Institute, developed www.foodvalueanalysis.org Web site to compare home recipe and various processed forms of foods based on price per serving, preparation time, cooking time, nutrients, food groups, shelf life, and food safety concerns. Prepared data using U.S. Department of Agriculture databases including FNDDS, SR, FPED, and CNPP food prices database and other sources.

FDA Trade Impact Model (2012 to 2015)—*Senior Advisor*. Using the Global Simulation Model framework, developed an operational model that allows analysts to estimate the potential effects of FDA

policies, such as import bans and increased costs of production, on international trade for approximately 200 products. The model generates estimated impacts of trade policies on price, output, welfare, employment, and trade flows to the United States.

WIC Food Cost Report and Market Analysis (2012 to 2013)—*Senior Advisor*. Working with Urban Institute, calculated prices of WIC foods using Nielsen household-based scanner data for use in the Food and Nutrition Service's 2010 WIC food cost report. Developed and implemented a modeling approach to estimate the effect of WIC food purchases on retail prices and sales by food category.

Evaluation Planning and Tools for Front of Package Nutrition Labeling Initiatives (2011 to 2012)—*Senior Advisor*. For the Department of Health and Human Services, developed an evaluation plan to examine the effect of front-of-package (FOP) nutrition labeling symbols on consumers, food manufacturers, and retailers. Based on the Centers for Disease Control and Prevention's evaluation framework and informed by stakeholder interviews, developed a program logic model, evaluation research questions, and approaches to conducting analyses to address the evaluation questions.

Economic Impact Analysis of Proposed Regulations for Living Conditions for Organic Poultry (2011 to 2012)—*Project Director*. With researchers at North Carolina State University, estimated the industry costs of complying with potential changes in the standards for living conditions for organic poultry and eggs for the Agricultural Marketing Service. Implemented an equilibrium displacement modeling approach to estimate the market-level impacts of the new standards on organic and conventional poultry and eggs.

Relationship between Eating Behaviors, Stress, and Dietary Quality among WIC Participants (2011 to 2012)—*Senior Advisor*. Conducted pilot study to examine the relationship between stress, eating behaviors such as cognitive restraint and disinhibition, and dietary quality among WIC participants. Conducted 24-hour dietary recalls using AMPM, administered survey instrument to collect information on eating behaviors and stress, and analyzed the relationship between stress and diet.

Modeling the Costs of Food Defense Practices (2010 to 2014)—*Project Director*. For FDA policies, developed an operational model to estimate the costs of food defense practices that food manufacturers might implement to reduce the potential for intentional contamination of foods. Determined the types and characteristics of food defense practices using an expert panel process, worked with industry experts to estimate the costs per establishment, and developed the model using Dun & Bradstreet establishment data to estimate industry-wide costs.

Analysis of How Post-Harvest Processing Technologies for Controlling *Vibrio vulnificus* Can Be Implemented (2010 to 2012)—*Project Director*. For FDA, estimated the costs of requiring post-harvest processing of oysters harvested from the Gulf of Mexico and intended for raw consumption using information obtained from oyster processors and equipment vendors. Based on the costs of using three different technologies, estimated the number of plant closures that would occur in response to the requirements. Conducted a GIS analysis to determine optimal locations for locating cooperative post-harvest treatment facilities.

Evaluation of Front of Package Nutrition Labeling (2010 to 2011)—*Senior Advisor*. For the Department of Health and Human Services, conducted a systematic review of research in the United States and internationally on the effects of various FOP labels on consumer understanding and purchase of the foods. Designed and assessed a new summary rating system that was tested in an analysis of National Health and Nutrition Examination Survey data and designed approaches to help FDA evaluate the effects of widespread implementation of food labeling systems on consumers and producers.

Nutrient Rich Foods Demonstration Project (2008 to 2009)—*Senior Advisor*. For the Dairy Management Institute, evaluated an educational intervention to encourage consumption of nutrient-dense foods. Developed and tested the impact evaluation instrument and managed the data collection, which

included pre- and post-intervention surveys and 24-hour dietary recalls using the Nutrition Data System for Research with the treatment and control groups.

Comparing Attitudinal Responses from Proprietary and Government Surveys (2007 to 2013)—*Project Director*. For ERS, examined whether households that participate in the Nielsen Homescan panel have similar attitudes toward diet and health compared to the general population because of the potential implications on interpreting results of studies using household-based scanner data. Conducted a survey of a random sample of households in the panel using diet and health questions from existing government surveys and analyzed differences in the results.

Update and Validate Loss Estimates for Cooking Loss and Uneaten Food at the Consumer Level as Part of the Whole Chain Study (2006 to 2010)—*Principal Investigator*. Calculated updated estimates of consumer-level food loss for ERS's Loss-Adjusted Food Availability Data Series by comparing national estimates of food purchases using household-based scanner data and food consumption using the National Health and Nutrition Examination Survey dietary recall accounting for use of foods in recipes and differences in at-home and away-from-home food consumption.

ERS Data Quality Design (2006 to 2007)—*Project Director*. Conducted an extensive examination of the data collection methods and statistical properties of the Nielsen Homescan household-based scanner data to provide an understanding of how the data should best be used for conducting economic analysis of food policies. In cooperation with Nielsen, documented the properties of the data for use by researchers and recommended additional studies to evaluate the data.

Livestock and Meat Marketing Study (2004 to 2007)—*Project Director*. Conducted a Congressionally mandated study for USDA to characterize the type of alternative marketing arrangements used from farm to retail in the beef, pork, and lamb industries; determine the reasons why alternative marketing arrangements are used; and analyze the effects of alternative marketing arrangements on prices, product quality, efficiency, and risk. Coordinated academic study teams, developed and administered industry surveys, collected and analyzed industry transactions data, conducted in-depth interviews with industry participants, and conducted econometric analyses. Testified before Congress on the results of the study.

Pork Slaughter and Processing Facilities Level Model (2004 to 2007) and ***Poultry Slaughter and Processing Facilities Level Model*** (2004 to 2006)—*Project Director*. For FSIS, developed facility-level models of the pork slaughter and poultry slaughter industries to estimate price, quantity, and social welfare effects of food safety regulations affecting establishments in these industries. Characterized supply and demand relationships in pork production and poultry production and developed model interface for entering engineering cost estimates associated with regulatory compliance.

Economic Analysis of the Bovine Spongiform Encephalopathy Rule (2003 to 2006)—*Project Director*. For FSIS, developed a facility-level model of the beef industry to estimate the price, quantity, and social welfare effects of a Bovine Spongiform Encephalopathy (BSE) regulation on affected beef slaughter plants. Estimated costs of the regulation based on industry interviews and used the model to determine the ex-ante impacts of the regulation.

FDA Labeling Cost Model (2002, 2010, and 2014 to 2015)—*Project Director*. Developed and maintaining the FDA Labeling Cost Model that allows analysts to estimate the number of affected products and the cost of changing food labels (nutrition information, health claims, and other label information) for all products sold in the United States. Incorporated Nielsen store scanner data, industry cost estimates, and relevant assumptions to develop an Excel-based model with a model interface to allow users to select model inputs and obtain estimated industry costs.

Modeling the Decision to Reformulate Foods and Cosmetics (2002 to 2004)—*Project Director*. Developed a simulation model of food, dietary supplement, and cosmetic manufacturer responses to FDA regulations in terms of relabeling, reformulation, or discontinuing production. Using an analytical

hierarchical modeling process, developed parameters to assess differences in responses based on product type, consumer sensitivity to changes in product characteristics, and competitor activities

Data Collection and Economic Analysis for the Rule: Performance Standards for the Production of Processed Meat and Poultry Products (2002 to 2004)—*Project Director*. For FSIS, analyzed characteristics of young chicken and market hog slaughter establishments that are associated with better food safety performance as measured by Salmonella test results. Conducted series of analyses for each plant type including classification and regression tree, factor analysis, and logistic regression to identify the magnitude and direction of effects of key variables that are associated with better food safety performance.

Evaluation Studies and Analyses for PR/HACCP Systems: Impacts on the Domestic Industry and International Trade (1999 to 2002)—*Lead Economist*. For FSIS, developed and implemented methodologies for conducting an ex-post evaluation of the economic effects of Hazard Analysis and Critical Control Points (HACCP) on the meat and poultry industries including effects on industry entry and exit and international trade. Using facility-level data, developed an econometric model to assess the factors influencing facility entry and exit and compared pre-regulatory with post-regulatory rates of entry and exit. Analyzed export data to determine the effects of HACCP on export product volumes and prices.

Economic Impacts of Mandating Post-Harvest Treatment of Oysters (1999 to 2000)—*Project Director*. For FDA, developed an economic model of the U.S. oyster industry to assess the effects of potential post-harvest treatment requirements. Estimated the costs of three treatment process options; evaluated consumer and restaurant responses to changes in the product as a result of treatment; and analyzed the impacts of the additional supply-side costs and demand-side effects on industry output, prices, and profits.

Honors and Awards

USDA Bruce Gardner Award from the USDA Economists Group, 2024

RTI Professional Development Award, 2017–2018

College of Agriculture and Life Sciences Outstanding Alumnus, North Carolina State University, 2011

RTI President's Award, 2011

RTI Highly Published Author Award, 2008, 2009, 2010, 2013, 2014, 2015, 2018, 2020, 2021, 2022, 2023

RTI Team Award, 2007

RTI Career Authors Award, 2004

American Agricultural Economics Association Outstanding Ph.D. Dissertation Award nominee, 1998

Warren Award for graduate student publication, Cornell University, 1990

American Agricultural Economics Association Outstanding Master's Thesis Award nominee, 1990

Professional Associations

Agricultural and Applied Economics Association (AAEA), 1997 to date

AAEA Food Safety and Nutrition Section, 2000 to date

AAEA Food and Agricultural Marketing Policy Section, 2005 to date

North American Food Systems Network, 2025 to date

Professional Service

Reviewer

AgBioForum, *Agribusiness*, *Agricultural and Resource Economics Review*, *American Journal of Agricultural Economics*, *American Journal of Preventive Medicine*, *Appetite*, *Applied Economics Letters*, *Applied Economic Perspectives and Policy*, *Choices*, *Conservation Ecology*, *European*

Review of Agricultural Economics, Food Policy, International Food and Agribusiness Management Review, Journal of Agricultural and Applied Economics, Journal of Agricultural and Food Industrial Organization, Journal of Agricultural and Resource Economics, Journal of Environmental Economics and Management, Journal of Food Products Marketing, Journal of Policy Management and Analysis, Nutrients, Review of Agricultural Economics, Review of Industrial Organization, Science Advances, and others

AAEA Meetings Selected Papers and Abstracts, 1997, 1999, 2000, 2001, 2002, 2004, 2007, 2016, and 2024

U.S. Department of Agriculture's Economic Research Service Technical Bulletins, 2003–2019, 2024

NASEM consensus committee report, 2019

RWJF, HER grant proposals, 2018, 2019, 2023, 2024

Professional Activities

Co-organizer, organized symposium, Challenges and Solutions in Measuring Household Food Loss and Waste for Use in Policy Analysis, AAEA meetings, New Orleans, LA, July 28–30, 2024

Organizer, organized session, Application of Retail Scanner Data to Calculating Monthly Area Price Measures for Foods, Federal Committee on Statistical Methodology Research and Policy Conference, October 24–26, 2023, Hyattsville, MD

Co-organizer, workshop, Using Scanner Data for Food Economics Research, Anaheim, CA, August 3–4, 2022

Panel member, organized symposium, Digital Technology Innovation in Food and Agriculture: Food Traceability and Beyond at the AAEA meetings, Anaheim, CA, July 31, 2022–August 2, 2022

Invited panelist, Food and Agricultural Economics. Cornell Dyson Graduate Alumni Reunion, Ithaca, NY, June 18, 2022

Co-organizer and presenter, organized symposium, Advances in Food Security and Food Safety—A Session to Honor Dr. Helen Jensen. 2021 AAEA & WAEA Joint Annual Meeting, Austin, TX, August 3, 2021

Reviewer board, *Nutrients*, October 2020–2023

Organizer, roundtable, Using Scanner and Nutrition Label Data to Evaluate the Effectiveness of Food and Nutrition Interventions. RWJF Healthy Eating Research 2020 Grantee Meeting, Denver, CO, March 2020

Organizer, organized symposium, Measuring the Retail Food Environment and Analyzing its Effects on Consumers, AAEA virtual meetings, September 18, 2020

Board member, *Journal of Food Products Marketing*, January 2017–January 2020

Visiting Scholar, U.S. Department of Agriculture, Economic Research Service, Food Economics Division, September 2017–August 2018

External Advisory Board Member, National Socio-Environmental Synthesis Center, University of Maryland, 2016–2018

Adjunct associate professor, Department of Agricultural and Resource Economics, North Carolina State University, 2007–date

Organizer, organized symposium, Measuring and Reducing Food Loss Across Countries, XV EAAE Congress 2017, August 28–September 1, 2017

Organizer and moderator, invited paper session, Modeling Household Food Choice Behavior Using Store-based and Household-based Scanner Data. 2017 Allied Social Sciences Meeting, Chicago, IL, January 2017

Organizer, organized symposium, Does Food Safety Regulation Pay?, 2016 AAEA Annual Meeting, Boston, MA, July–August 2015

Organizer, organized symposium, Understanding and Analyzing IRI Scanner Data, 2015 AAEA & WAEA Joint Annual Meeting, Food Safety and Nutrition Section, San Francisco, CA, July 2015

Chairperson, NASEM, Steering Committee on Data and Research to Improve the U.S. Food Availability System and Estimates of Food Loss: A Workshop, January 2014–September 2014

Co-organizer, organized symposium, Value-added through Food Processing: Price, Time, and Nutrition Trade-offs, AAEA & CAES Joint Annual Meeting, Washington, DC, August 2013

Advisory Board Member, The Charles J. Zwick Center for Food and Resource Policy, University of Connecticut, August 2011–August 2013

Member, Institute of Medicine (now NASEM), Food and Nutrition Board, Committee on Examination of the Adequacy of Food Resources and SNAP Allotments, 2012

Organizing committee, NEC-63 and AAEA-FSN Economics of Improved Food Safety Practices Conference, Monterey, CA, September 27–28, 2010

Co-organizer, Applying Household Scanner Data to Food and Nutrition Economics Research, AAEA meetings, Denver, CO, July 25–27, 2010

Program Committee, Behavioral and Experimental Economics, Food, and Health Preconference Workshop, AAEA annual meetings, Denver, CO, July 24, 2010

Committee Member, Institute of Medicine (now NASEM), Committee on Strategies to Reduce Sodium Intake.

Chair (2009–2010), Chair-elect (2008–2009), and Past-chair (2009–2010), AAEA Food Safety and Nutrition Section

Editorial Council, *Journal of Agricultural & Resource Economics*

Organizer, Food Safety and Nutrition Section track, 2009 AAEA & ACCI Joint Annual Meeting, Milwaukee, WI, July 26–28, 2009

Panelist, *Traceability cost evaluation subpanel*. Institute of Food Technologists, 2009

Food Safety and Nutrition Topic Co-Leader, AAEA meeting selected presentations review, 2008 and 2009

Organizer and moderator, organized symposium, “Modeling the Effects of Restricting Livestock Marketing Methods: A Comparison of Three Models” at the Joint AAEA, WAEA, & CAES meetings, Portland, OR, July 29–August 1, 2007

Organizer, invited organized symposium, “Why Cattle Producers and Beef Packers Use Alternative Marketing Arrangements” for the Joint AAEA, WAEA, & CAES meetings, Portland, OR, July 29–August 1, 2007

Committee Member, AAEA’s Food Safety and Nutrition Section, New Food Safety Incentives and Regulatory, Technological, and Organizational Innovations Preconference, AAEA Meetings, Long Beach, CA, July 2006

Organizer, organized symposium, “The Economic Effects of Regulations to Prevent BSE in the Cattle and Beef Industries.” AAEA Meetings, Providence, RI, July 2005

Chair, AAEA Awards Subcommittee on Quality of Communications, 2004

Co-organizer, organized symposium, “The Economics of Emerging Food Safety Concerns.” AAEA Meetings, Denver, CO, August 2004

Organizer, organized symposium, “Analyzing the Ex-Ante and Ex-Post Economic Effects of HACCP Food Safety Regulations.” AAEA n Meetings, Montreal, Quebec, July 2003

Member, AAEA Awards Subcommittee on Quality of Communications, 2002, 2003

Organizer, organized symposium, “Food Manufacturer Responses to Bioengineered Foods,” AAEA n Meetings, Long Beach, CA, July 2002

Member at Large, AAEA Food Safety and Nutrition Section, 2000–2001

Organizer, organized symposium, “HACCP-Based Inspection Models (HIMP): Revolution and Devolution,” AAEA Meetings, Chicago, IL, August 2001

Special Courses

Transforming Nutrition Ideas, Policy, and Outcomes, Institute of Development Studies, University of Sussex, Brighton, UK, July 17–21, 2017

Leadership Development for Program Managers/Directors, January 25–27, 2005
 Guide to Project Management, Research Triangle Institute, January 23–25, 2001
 Introductory Course for Development of HACCP Plans for Meat and Poultry Establishments, North Carolina State University, Department of Food Science, October 25–27, 1999

Books, Book Chapters, and Monographs

- Ellison, B., & Muth, M. K. (2022). The economics of food loss and waste. In J. Roosen, & J. Hobbs (Eds.), *A modern guide to food economics*. Edward Elgar Publishing.
- Muth, M. K., Okrent, A., Zhen, C., & Karns, S. A. (2019). *Using scanner data for food policy research* (1st ed.). Elsevier Academic Press. <https://www.elsevier.com/books/using-scanner-data-for-food-policy-research/muth/978-0-12-814507-4>
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Other Publications

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Presentations and Proceedings

- Muth, M.K., Karns, S., Bock, A., Tilley, A., & Kantor, L. Estimation of U.S. Consumer-Level Food Loss and Waste Factors Using Secondary Data. Presented at the AAEA meetings, New Orleans, July 28-30, 2024.
- Muth, M.K. Sources and Analyses of Food Label Data from Proprietary Sources. Presented at the Workshop on Food Prices and Forecasting, New Orleans, LA, July 31-August 1, 2024.
- Okrent, A., Sweitzer, M., Byrne, A., Zhen, C., & Muth, M.K. (2023). *Comparing Food-at-Home Monthly Area Prices (F-MAP) with the Consumer Price Index (CPI)*. Presented at the Federal Committee on Statistical Methodology Research and Policy Conference, Hyattsville, MD.
- Muth, M. K., Barefoot, A. G., Creel, D. V., Ellison, B., Karns, S. A., Llobrera, J., Love, E., Mancino, L., & Okrent, A. (2023). *Effects of SNAP participation on the healthfulness of foods purchased by households with children during the COVID-19 pandemic: Preliminary results*. Presented at the AAEA Meetings, Washington, DC.
- Muth, M. K., Barefoot, A. G., Creel, D. V., Ellison, B., Karns, S. A., Llobrera, J., Love, E., Mancino, L., & Okrent, A. (2023). *Effects of SNAP participation on the healthfulness of foods purchased by households with children during the COVID-19 pandemic: Preliminary results*. Presented at the Healthy Eating Research Conference, Durham, NC.
- Muth, M. K., Karns, S. A., & Zhen, C. (2022). *Overview of the Monthly Food-at-Home Price Database (MFAHPD)*. Presented at the Workshop on Using Scanner Data for Food Economics Research, Anaheim, CA.
- Muth, M. K., Karns, S. A., Kinney, S., Siegel, P. H., & Zhen, C. (2020). *Measuring the retail food price environment using store scanner data*. Presented at the virtual AAEA Meetings.
- Muth, M. K. (2020, April 1). *Estimating consumer-level food loss ratios using purchase and consumption data*. Presented at the Ohio State University Food Waste Collaborative Webinar.
- Muth, M. K., Todd, J. E., Karns, S. A., & Mancino, L. (2019). *How much can product reformulation improve diet quality among children and adolescents?* Presented at the Healthy Eating Research 13th Annual Grantee Meeting, Detroit, MI.
- Read, Q., Cuéllar, A., Finn, S. M., Meyer, E., Marston, L., Weitz, K. A., ... Muth, M. K. (2019). *How much do proposed interventions to reduce food loss and waste benefit the environment, climate, and biodiversity?* Ecological Society of America Annual Meeting, Louisville, KY, United States.

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- Muth, M. K. (2018, November 17). *How much can reformulation improve diet quality among children?* Seminar presented at the University of Arkansas, Fayetteville, AK.
- Muth, M. K. (2018, October 17). *Research to improve the loss-adjusted food availability data series.* Invited presentation at “Reducing Food Loss & Waste: A Workshop on Impacts,” NASEM, Washington, DC.
- Muth, M. K. (2018, September 21). *Store and household scanner data for food and nutrition policy research.* Invited presentation at “Panel on improving USDA’s consumer data for food and nutrition policy research.,” NASEM, Washington, DC.
- Ellison, B., Muth, M. K., & Golan, E. (2018, August 6). *Opportunities and challenges in conducting economic research on food loss and waste.* Agricultural & Applied Economics Association Meetings, Washington, DC.
- Muth, M. K., Karns, S. A., Mancino, L., & Todd, J. (2018, August 7). *How much can product reformulation improve diet quality among children?* Agricultural & Applied Economics Association Meetings, Washington, DC.
- Schnefke, C., Thakwalakwa Kantukule, C., Muth, M. K., Phuka, J., Coates, J., Rogers, B., ... Flax, V. L. (2018). *Formative evaluation of pictorial methods for portion size estimation in Malawi.* International Food and Nutrition Research Dissemination Conference, Lilongwe, Malawi.
- Stobaugh, H., Flax, V. L., Schnefke, C., Muth, M. K., Thakwalakwa Kantukule, C., Phuka, J., ... Bell, W. (2018). *Formative evaluation of pictorial methods for portion size estimation in Malawi.* Poster session presented at Triangle Global Health Consortium Conference, Raleigh, NC, United States.
- Muth, M. K. (2017, December 1). *Assessment of commercial store and household scanner data: Methods, content, and cautions.* Presented at FCSM/WSS Workshop on Transparent Reporting on the Quality of Integrated Data, Washington, DC.
- Schnefke, C., Flax, V., Muth, M. K., Thakwalakwa Kantukule, C., Phuka, J., Coates, J., ... Bell, W. (2018). *Formative evaluation of pictorial methods for portion size estimation in Malawi.* Poster session presented at American Society for Nutrition Conference, Boston, MA.
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- Williams, P. A., Schnefke, C., Flax, V. L., Muth, M. K., Stobaugh, H., Nyirampeta, S., ... Musanabaganwa, C. (2018). *Using trials of improved practices (TIPs) to identify double-duty actions for the double burden of malnutrition in Rwanda.* Poster session presented at American Society for Nutrition Conference, Boston, MA.
- Muth, M., Mancino, L., Todd, J., Karns, S., & Kretser, A. (2017). *Studying the impact of food reformulation on child and adolescent obesity and what motivates manufacturers to reformulate foods.* Poster session presented at Robert Wood Johnson Foundation Healthy Eating Research, St. Paul, MN.
- Muth, M. K., & Wood, D. W. (Invited Speaker). (2016, December). *Overview of approaches and key issues for monitoring added sugars.* Presented at Healthy Food America’s workshop on “Tracking added sugars intake in the United States,” Washington, DC.
- Viator, C. L., Cates, S. C., Karns, S. A., & Muth, M. K. (2016, August). *Pathogen control strategies used by U.S. meat slaughter and processing establishments.* Poster presented at International Association for Food Protection, Saint Louis, MO.
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- Muth, M. K. (2016, August). *Cost estimation methodologies*. Presented as part of an organized symposium, “Does food safety regulation pay?” at AAEA annual meeting, Boston, MA.
- Muth, M. K., Viator, C., & Karns, S. (2016, June). *Motivations and costs for reformulating food products*. Presented at the International Food Marketing Research Symposium, Bologna, Italy.
- Zhen, C., Muth, M. K., Karns, S. A., Brown, D. S., Siegel, P. H., & Okrent, A. (2016, April). Do differences in reported expenditures between commercial household-based scanner data and government surveys matter in a structural model of food demand? Presented at Workshop on Applying IRI Store and Household Scanner Data in Food Economics Studies, Washington, DC.
- Sweitzer, M., Zhen, C., Muth, M. K., Karns, S. A., Brown, D. S., Siegel, P. H., et al. (2016, April). Exploring household expenditures and medical information in the IRI Consumer Network data: Comparing household scanner data with government survey data. Presented at workshop on Applying IRI Store and Household Scanner Data in Food Economics Studies, Washington, DC.
- Muth, M. K., & Sweitzer, M. (2016, April). *Findings from the report on the properties of IRI scanner data*. Presented at Workshop on Applying IRI Store and Household Scanner Data in Food Economics Studies, Washington, DC.
- Capogrossi, K. L., Muth, M. K., Karns, S. A., & Levin, D. (Invited Speaker). (2016, April). A comparative analysis of hedonic models of nutrition information and health claims on food products: An application to soup products. Presented at IRI Scanner Data Workshop, Washington, DC.
- Richardson, A. S., Arsenault, J., Cates, S. C., & Muth, M. K. (2015, November). *Increased stress may lead to poor eating behaviors and severe obesity among low-income women*. Presented at APHA Annual Meeting and Expo, Chicago, IL.
- Capogrossi, K. L., Muth, M. K., Karns, S. A., & Levin, D. (2015, July). *Differences in the estimated value of health labeling statements to consumers between IRI and Gladson nutrition data*. Presented at Agricultural and Applied Economics Association annual meeting, San Francisco, CA.
- Muth, M. K., Bradley, S. R., Brophy, J. E., Capogrossi, K. L., Coglaiti, M. C., Karns, S. A., & Viator, C. L. (2015, July). *A model to estimate the costs of reformulating food in response to regulation*. Poster presented at IFT15: Where Science Feeds Innovation, Chicago, IL.
- Viator, C. L., Cates, S. C., Karns, S. A., Muth, M. K., & Noyes, G. (2015, July). *Changes in food safety practices at egg products plants from 2004 to 2014*. Poster presented at International Association for Food Protection (IAFP) Annual Meeting, Portland, OR.
- Zhen, C., Muth, M. K., Karns, S. A., Brown, D., Siegel, P. H., & Okrent, A. (2015, July). Do differences in reported expenditures between commercial household-based scanner data and government surveys matter in a structural model of food demand? Presented at 2015 AAEA & WAEA joint annual meeting, San Francisco, CA.
- Zhen, C., Muth, M. K., Karns, S. A., Brown, F. S., Siegel, P. H., & Okrent, A. (2015, March). Do differences in reported expenditures between commercial household-based scanner data and government surveys matter in a structural model of food demand? Presented at the EAAE/AAEA Joint Seminar on Consumer Behavior in a Changing World: Food, Culture, and Society, Naples, Italy.
- Muth, M. K. (Invited Speaker). (2015, January). *Labeling panel*. Presented at “Carrots and sticks: Moving the U.S. national food system toward a sustainable future,” Duke Environmental Law & Policy Forum, Duke University School of Law, Durham, NC.
- Buzby, J. C., Muth, M. K., & Yaktine, A. (2014). *Data and research to improve the U.S. food availability data systems and estimates of agriculture*. Briefing to Dr. Catherine Wotecki, Undersecretary for Research, Education, and Economics, U.S. Department of Agriculture, Washington, DC.
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- Muth, M. K. (Invited Speaker). (2014, November). *Panel on previous surveys related to food safety*. Presented at USDA/ERS Produce Food Safety Survey Workshop, Washington, DC.
- Yang, Y., Davis, G., & Muth, M. K. (2014, July). *The money price or full price of food: How a little time makes a big difference*. Poster presented at Agricultural & Applied Economics Association Meeting, Minneapolis, MN.
- Wohlgenant, K. C., Hersey, J. C., Muth, M. K., Arsenault, J., & Kosa, K. M. (Invited Speaker). (2013, November). *Consumer, producer, and retailer response to front of package and shelf nutrition labeling systems*. Presented at ILSI Southeast Asia Region's 8th Seminar on Nutrition Labeling, Claims and Communication Strategies, Jakarta, Indonesia.
- Muth, M. K. (Invited Speaker). (2013, September). *Public and private incentives for ensuring food safety in the meat industry*. Presented at 2013 U.S.-China Swine Industry Development Forum: Food Safety Policies, Practices, and Performance, Beijing, China.
- Muth, M. K. (Discussant). (2013, September). *Programs to improve food safety at the farm level*. 2013 U.S.-China Swine Industry Development Forum: Food Safety Policies, Practices, and Performance, Beijing, China.
- Muth, M. K. (2013, September). *Policy analysis from farm to fork*. Presented at China Agricultural University, Beijing, China.
- Muth, M. K. (Invited Speaker). (2013, August). *Lessons from USDA's mandatory HACCP rule for meat and poultry*. Presented at Economic Analysis and Food Safety: The Food Safety Modernization Act, AAEEA Post-Conference Workshop, Washington, DC.
- Muth, M. K., Dunn, C., & Levine, K. (2013, August). *Everyday eating: What drives consumers' food decisions?* Poster presented at Society for Nutrition Education and Behavior, Portland, OR.
- Muth, M. K., Jensen, H., & Gregory, C. (2013, August). *Comparing prices and attributes of foods at different levels of processing*. Presented at AAEEA & CAES Joint Annual Meeting, Washington, DC.
- Zheng, Y., Muth, M. K., & Brophy, J. E. (2013, August). *The impact of food safety third-party certifications on China's food exports to the United States*. Presented at Agricultural & Applied Economics Association Annual Meeting, Washington, DC.
- Kretser, A., Muth, M. K., & Dunn, C. Food Value Analysis Database. (2013, June). Presented eXtension Webinar. <https://learn.extension.org/events/1070>
- Muth, M. K., Cates, S. C., Karns, S. A., Siegel, P. H., Wohlgenant, K. C., & Zhen, C. (2013, May). *Comparing diet and nutrition attitudes and awareness across proprietary and government surveys*. Presented at U.S. Department of Agriculture, Economic Research Service, Washington, DC.
- Arsenault, J., Muth, M. K., Cates, S. C., Anater, A. S., Blitstein, J. L., Karns, S. A., Wohlgenant, K. C., & Council, M. E. (2013, April). *Stress is associated with poor dietary quality in low-income women*. Presented at Experimental Biology, Boston, MA.
- Muth, M. K., Karns, S. A., Coglaiti, M. C., Zmuda, M. S., Koyanagi, M. M., Duffey, K., Dunn, C., Jensen, H., & Gregory, C. (2013, April). *A web-based food value analysis application to compare foods at different levels of processing*. Poster presented at Experimental Biology, Boston, MA.
- Muth, M. K. (2013, February). *Determining whether establishment characteristics affect food safety performance: An application to U.S. chicken slaughter establishments*. Presented at University of Guelph Food Safety Seminar Series, Guelph, Ontario, Canada.
- Muth, M. K. (2013, February). *Considerations in integrating economic analysis in food safety risk modeling*. Presented at Steering Group Meeting on Systems and Risk Modeling to Support Food and Consumer Safety in Canada 2013, Guelph, Ontario, Canada.
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- Muth, M. K. (2013, February). *Food value decisions project brief*. Presented at ConAgra Scientific Advisory Board Meeting, Omaha, NE.
- Vukina, T., & Muth, M. K. (2012, August). *Economic impact analysis of proposed regulations for living conditions for organic poultry: Overview and results*. Presented at U.S. Department of Agriculture, Agricultural Marketing Service, Washington, DC.
- Muth, M. K. (2012, July). *Overview of the food value decisions project*. Presented at ILSI North America Food, Nutrition & Safety Program mid-year meeting, Washington, DC.
- Muth, M. K., & Viator, C. L. (2012, March). *Analysis of implementing post-harvest processing technologies for controlling *Vibrio vulnificus*: Additional analysis results*. Presented at Interstate Shellfish Sanitation Conference Executive Board meeting, Charlotte, NC.
- Muth, M. K. (Invited Speaker). (2012, January). *Policy analysis from farm to fork: An example for the gulf oyster industry*. Presented at Annual Meeting of NC Crop Improvement Association and NC Foundation Seed Producers, McKimmon Center, North Carolina State University, Raleigh, NC.
- Wohlgenant, K. C., Hersey, J. C., Arsenault, J., Kosa, K. M., & Muth, M. K. (2011, November). *Comprehensive review of consumer, producer, and retailer response to front-of-package and shelf nutrition labeling systems*. Presented at APHA 139th annual meeting and exposition, Washington, DC.
- Muth, M. K. (2011, September). *Policy analysis from farm to fork*. Presented at Department of Agricultural and Resource Economics, North Carolina State University, Raleigh, NC.
- Muth, M. K., Viator, C. L., & Karns, S. A. (2011, July). *Analysis of the economic effects of requiring post-harvest processing for raw oysters*. Presented at Agricultural and Applied Economics Association and Northeastern Agricultural and Resource Economics Association Joint Annual Meeting, Pittsburgh, PA.
- Muth, M. K. (2011, June). *Evaluating household-based scanner data*. Presented at Using Scanner Data to Answer Food Policy Questions Conference, Economic Research Service, U.S. Department of Agriculture, Washington, DC.
- Muth, M. K. (2011, June). *Role of public policy in food needs, nutrition, availability, and choices*. Presented at Farm Foundation, NFP Round Table, Chicago, IL. Panel member.
- Muth, M. K. (2011, June). *Challenges and successes of using scanner data for public policy*. USDA/ERS Conference on Using Scanner Data to Answer Food Policy Questions, Washington, DC. Panel Member.
- Muth, M. K. (2011, April). *From farm to fork: Regulating U.S. Food Safety*. Organizer and moderator, RTI Policy Forum. National Press Club, Washington, DC.
- Muth, M. K., & Viator, C. L. (2011, January). *Analysis of implementing post-harvest processing technologies for controlling *Vibrio vulnificus**. Presented at Interstate Shellfish Sanitation Conference Vibrio Management Committee meeting, Orlando, FL.
- Jaykus, L., Anderson, M., Muth, M. K., Beaulieu, S. M., Mokhtari, A., Bowles, E. A., Newsome, R., & Oryang, D. (2010, December). *Development of an information library to support comparative risk assessment using the iRisk model*. Presented at Society for Risk Analysis annual meeting, Salt Lake City, UT.
- Muth, M. K. (2010, November). *Addressing the obesity challenge*. Presented at Farm Foundation Forum-Obesity, Food and Agricultural Policy: What's the Connection? National Press Club, Washington, DC.
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- Muth, M. K., Ollinger, M., Karns, S. A., & Choice, Z. (2010, September). *Effects of third party audits on food safety practices in meat and poultry establishments*. Presented at NEC-63 and AAEEA-FSN Economics of Improved Food Safety Practices, Monterey, CA.
- Muth, M. K., Karns, S. A., Siegel, P. H., Zhen, C., & Leibtag, E. (2010, July). *A comparison of attitudes towards diet and health between Homescan households and respondents to government surveys*. Presented at AAEEA meetings, Denver, CO.
- Muth, M. K., Creel, D. V., & Karns, S. A. (2010, June). *Analysis of the relationship between economic measures and Salmonella testing results in young chicken establishments*. Presented at U.S. Department of Agriculture, Food Safety and Inspection Service, Data Coordination Committee, Washington, DC.
- Muth, M. K. (2009, November). *Expert elicitation on economic and environmental questions for wood packaging materials*. Presented at U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Raleigh, NC.
- Muth, M. K., Zhen, C., Taylor, J., Cates, S. C., & Kosa, K. M. (2009, August). *The value to consumers of health labeling statements on breakfast foods and cereals*. Presented at International Association of Agricultural Economists, Beijing, China.
- Zhen, C., Taylor, J. L., Muth, M. K., & Leibtag, E. (2009, July). Understanding differences in self-reported expenditures between household scanner data and diary survey data: A comparison of Homescan and Consumer Expenditure Survey. Poster presented at AAEEA & ACCI Joint Annual Meeting, Milwaukee/WI.
- Muth, M. K. (2009, July). *Food safety risk ranking and cost analysis along the domestic and international supply chains*. Presented at AAEEA & ACCI joint annual meetings, Milwaukee, WI. Discussant.
- Muth, M. K., Karns, S. A., & Ollinger, M. (2009, July). *Effects of third party audits on use of food safety technologies and practices in U.S. meat and poultry establishments*. Poster to be presented at the International Association for Food Protection, Grapevine, TX.
- Cates, S. C., Muth, M. K., & Mokhtari, A. (2009, February). *Developing and delivering food safety training in the United States*. Poster presented at the 4th Dubai International Food Safety Conference, Dubai, United Arab Emirates.
- Muth, M. K., Cates, S. C., Karns, S. A., & Mokhtari, A. (2009, February). *Analysis of food safety monitoring and performance in food establishments*. Poster presented at the 4th Dubai International Food Safety Conference, Dubai, United Arab Emirates.
- Muth, M. K., Beach, R. H., & Beaulieu, S. M. (2009, January). *Use of expert elicitation to support regulatory analyses*. Presentation at the USDA/Animal and Plant Health Inspection Service, Raleigh, NC.
- Muth, M. K. (2008, July). *Risk-based initiatives for meat and poultry inspection*. Presentation at the 2008 AAEEA & ACCI Joint annual meeting, Orlando, FL.
- Muth, M. K., Karns, S. A., Nielsen, S. J., Buzby, J. C., & Wells, H. F. (2008, July). *Estimation of consumer-level food loss for the ERS Food Availability Data System*. Poster presented at 2008 AAEEA & ACCI Joint annual meeting, Orlando, FL.
- Muth, M. K., Fahimi, M., & Karns, S. A. (2008, March). *Analysis of pathogen control performance in U.S. young chicken slaughter and pork slaughter establishments*. Paper presented at AAEEA/FAMPS-FSN Information, Policy, and the Food System Conference, Washington, DC.
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- Muth, M. K., & Cates, S. C. (2008, January). *Certified kitchen managers: Do they improve restaurant inspection outcomes?* Paper presented at EHS-Net Steering Committee Vision Meeting, Atlanta, GA.
- Lawrence, J. D., Muth, M. K., Taylor, J., & Koontz, S. R. (2007). *Meat processors purchasing and sales practices: Lessons learned from the GIPSA livestock and meat marketing study*. Paper Archive, NCCC-134 Applied Commodity Price Analysis, Forecasting and Market Risk Management. Available at http://www.farmdoc.uiuc.edu/nccc134/Year_search.asp?Type=Year&Year=2007.
- Koontz, S., Muth, M. K., & Lawrence, J. (2007). *Impacts of alternative marketing arrangement cattle procurement volumes on packer costs: Evidence from plant-level P&L data*. Paper Archive, NCCC-134 Applied Commodity Price Analysis, Forecasting and Market Risk Management. Available at http://www.farmdoc.uiuc.edu/nccc134/Year_search.asp?Type=Year&Year=2007.
- Muth, M. K., Fahimi, M., & Karns, S. A. (2007, July). *Analysis of pathogen control performance in U.S. broiler slaughter plants*. Poster presented at International Association for Food Protection Annual Meeting, Lake Buena Vista, FL.
- Viator, C. L., Cates, S. C., Karns, S. A., & Muth, M. K. (2007, July). *Pathogen control strategies used by U.S. meat and poultry processing plants*. Poster presented at International Association for Food Protection Annual Meeting, Lake Buena Vista, FL.
- Koontz, S., Muth, M. K., & Lawrence, J. (2007, July 29–August 1). *Effects of marketing arrangement choice on beef packer costs: Evidence from plant-level profit and loss data*. Paper presented at AAEE, WAEA, & CAES Joint Annual Meetings, Portland, OR.
- Liu, Y., Muth, M. K., Koontz, S., & Lawrence, J. (2007, July 29–August 1). *Quality differences across marketing arrangements and valuation methods in the beef industry*. Paper presented at AAEE, WAEA, and CAES Joint Annual Meetings, Portland, OR.
- Taylor, J. L., Muth, M. K., Cates, S. C., & Karns, S. A. (2007, July 29–August 1). *Types, frequency of use, and reasons for use of alternative marketing arrangements in the beef industry*. Paper presented at AAEE, WAEA, & CAES Joint Annual Meetings, Portland, OR.
- Muth, M. K., Nielsen, S. J., & Kosa, K. M. (2007, June 27). *Exploratory research on estimation of consumer-level food loss*. Presented at U.S. Department of Agriculture, Economic Research Service, Washington, DC.
- Muth, M. K., Karns, S. A., & Coglaiti, M. C. (2007, June 26). *Expert elicitation on the relative risks of processed meat and poultry products*. Paper presented at the Public Meeting on Risk Based Inspection (RBI)-Expert Elicitation, U.S. Department of Agriculture, Washington, DC.
- Muth, M. K. (2007, June 12). *The economics of food spoilage and loss*. Paper presented at Microbial Food Spoilage-Losses and Control Strategies, Food Research Institute, University of Wisconsin-Madison, Madison, WI.
- Muth, M. K. (2007, April 18). *Testimony for the hearing "Economic Challenges and Opportunities Facing American Agricultural Producers Today"*. Presented at U.S. Senate Committee on Agriculture, Nutrition, and Forestry, Washington, DC.
- Muth, M. K. (2007, April 17). *Testimony for the "Public Hearing to Review Market Structure for the Livestock Industry"*. Presented at House Committee on Agriculture, Subcommittee on Livestock, Dairy, and Poultry, Washington, DC.
- Lawrence, J., Muth, M. K., Taylor, J. L., & Koontz, S. (2007, April 16–17). *Meat processors purchasing and sale practices: Lessons learned from the GIPSA livestock and meat marketing study*. Paper presented at NCCC-134 Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management, Chicago, IL.
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- Koontz, S., Muth, M. K., & Lawrence, J. (2007, April 16–17). *Impacts of alternative marketing agreement cattle procurement volumes on packer costs: Evidence from plant-level P&L data*. Paper presented at NCCC-134 Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management, Chicago, IL.
- Muth, M. K., Liu, Y., Koontz, S., & Lawrence, J. (2007, April 16–17). *Effects of using alternative marketing arrangements on fed cattle prices and risk*. Paper presented at NCCC-134 Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management, Chicago, IL.
- Muth, M. K., Fahimi, M., & Karns, S. A. (2007, March 12). *Food safety performance in meat and poultry plants: Use of FSIS survey data*. Presented to the U.S. Department of Agriculture, Food Safety and Inspection Service, Washington, DC.
- Muth, M. K. (2007, February 20). *Livestock and meat marketing study: Final report*. Briefing at the U.S. Department of Agriculture, Whitten Building, Washington, DC.
- Muth, M. K. (2007, February 16). *Livestock and meat marketing study: Final report*. Briefings for the U.S. Senate Agriculture, Nutrition, and Forestry Committee staff; U.S. Senate Agricultural Appropriations subcommittee staff, and U.S. House of Representatives Agricultural Appropriations subcommittee staff, Washington, DC.
- Muth, M. K., Siegel, P. H., & Zhen, C. (2007, January 24). *Data quality study design: Household-based scanner data*. Presented at USDA, Economic Research Service, Washington, DC.
- Muth, M. K. (2006, November). Organized & Submitted Proposal for a Principal Paper Session at the 2007 American Agricultural Economics Association Meetings. *Measuring the welfare effects of restricting livestock marketing methods: a comparison of three models*.
- Cates, S. C., Karns, S. A., Viator, C. L., & Muth, M. K. (2006, August 13–16). *Food safety practices and technologies used by U. S. meat slaughter plants: Results of a national mail survey*. Poster presented at International Association of Food Protection Annual Meeting, Calgary, Alberta, Canada.
- Cates, S. C., Karns, S. A., Viator, C. L., & Muth, M. K. (2006, August 13–16). *Food safety practices and technologies used by U. S. poultry slaughter plants: Results of a national mail survey*. Poster presented at International Association of Food Protection Annual Meeting, Calgary, Alberta, Canada.
- Muth, M. K., Del Roccili, J., Koontz, S., Taylor, J., & Vukina, T. (2006, March 21–22). *A comparative assessment of marketing arrangements employed in livestock and red meat industry supply chains*. Paper presented at AAEE's FAMPS Section 2006 Annual Policy Conference Guiding Food and Agricultural Marketing Policy in the Face of Changing Marketing Structures, Arlington, VA.
- Koontz, S., Muth, M., Taylor, J., Del Roccili, J., & Martin, B. (2006, March 21–22). Reasons different alternative marketing arrangements are used in livestock and meat industry supply chains: Interview results with producers and packers. Paper presented at AAEE's FAMPS Section 2006 Annual Policy Conference Guiding Food and Agricultural Marketing Policy in the Face of Changing Marketing Structures, Arlington, VA.
- Del Roccili, J., Koontz, S., Martin, B., & Muth, M. (2006, March 21–22). Meat distribution, supply chains, and the role of marketing arrangements: An initial assessment of the grocery and food service sectors. Paper presented at AAEE's FAMPS Section 2006 Annual Policy Conference Guiding Food and Agricultural Marketing Policy in the Face of Changing Marketing Structures, Arlington, VA.
- Muth, M. K. (2006, February 16–17). *Alternative marketing arrangements in the livestock and meat industries*. Paper presented at Agricultural Outlook Forum, Arlington, VA.
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- Muth, M. K. (2005, August). *Spot and alternative marketing arrangements in the livestock and meat industries: Interim report*. Briefing presented to the U.S. Senate Agriculture, Nutrition, and Forestry Committee staff, Washington, DC.
- Muth, M. K. (Organizer). (2005, July). *The economic effects of regulations to prevent BSE in the cattle and beef industries*. Paper presented at the American Agricultural Economics Association Meetings, Providence, RI.
- Muth, M. K., Viator, C., Karns, S., Beach, R., & Meekhof, R. (2005, July). *Analysis of the economic effects of BSE regulations on cattle slaughter plants*. Paper presented at the American Agricultural Economics Association meetings, Providence, RI.
- Muth, M. K. (2004, December). *Technologies and costs for reducing the risks of transmitting BSE in cattle slaughter plants*. Paper presented at the RTI Fellows Symposium, Research Triangle Park, NC.
- Muth, M. K., Zorn, D., & Karns, S. A. (2004, August). *An operational model of food reformulation in response to regulation*. Poster presented at the AAEEA meetings, Denver, CO.
- Muth, M. K., & Karns, S. A. (2004, June). *Modeling the decision to reformulate foods and cosmetics*. Paper presented at the Food and Drug Administration, Center for Food Safety and Applied Nutrition, College Park, MD.
- Zorn, D. J., Muth, M. K., & Kosa, K. M. (2004, May). Challenges for changing food offerings on the way to consumers: Conversations with food manufacturers and restaurant chains. Poster presented at the FDA Science Forum, Washington, DC.
- Muth, M. K., Zorn, D., & Kosa, K. (2004, March). *Discussions with food manufacturers and restaurant chains on food product characteristics and labeling*. Paper presented at AAEEA's Food and Agricultural Marketing Policy Section, Economics of Obesity Conference, Washington, DC.
- Muth, M. K., Mancini, D., & Viator, C. (2003). The role of identity preservation systems in food manufacturer responses to bioengineered foods. *Proceedings issue of the Journal of Food Distribution Research*, 34(1), 43–49.
- Beach, R. H., Muth, M. K., & Heller, K. B. (2003, October). *Benchmark report for North Carolina agriculture: Historical trends and outlook*. Paper presented at the North Carolina Rural Partners Forum, Raleigh, NC.
- Muth, M. K., & Karns, S. A. (2003, July). *A multi-step evaluation of the economic effects of USDA's 1996 HACCP regulations on meat and poultry plants*. Paper presented at the American Agricultural Economics Association meetings, Montreal, Quebec.
- Muth, M. K. (2003, March). Economic assessment of the Smithfield Foods-Premium Standard Farms Agreement: Status report—Effects on the North Carolina hog and pork industry. Presented to the Smithfield Foods-Premium Standard Farms Agreement Advisory Panel, Raleigh, NC.
- Muth, M. K., & Viator, C. (2003, March 26). *A facility-level model of the U.S. poultry slaughter industry*. Presented at USDA's Food Safety and Inspection Service, Washington, DC.
- Muth, M. K., Mancini, D., & Viator, C. (2002, October). *U.S. manufacturer assessment and responses to bioengineered foods*. Paper presented at the 2002 Conference of the Food Distribution Research Society, Miami, FL.
- Muth, M. K., Viator, C. L., & Hoban, T. (2002, July). Food manufacturer decisions to produce nonbioengineered foods or foods enhanced through bioengineering—Results of company interviews. Paper presented at the American Agricultural Economics Association meetings, Long Beach, CA.
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- Muth, M. K., Wohlgenant, M. K., Karns, S. A., & Anderson, D. W. (2002, July). Factors affecting plant exit from the meat slaughter, poultry slaughter, and processing industries: Comparisons across industries. Exhibited at American Agricultural Economics Association meetings, Long Beach, CA.
- Muth, M. K., & Anderson, D. W. (2002, May 22). *A new approach for economic impact analyses*. Presented at USDA's Food Safety Inspection Service, Washington, DC.
- Muth, M. K. (2002, March 5). *Evaluating food manufacturer responses to bioengineered foods*. Presented at RTI's Genomic/Bioinformatics Group Workshop Series, Research Triangle Park, NC.
- Muth, M. K., & Kendall, D. L. (2002, January 31). *A facility-level approach to conducting EIAs*. Presented at USDA's Food Safety Inspection Service, Washington, DC.
- Muth, M. K., Karns, S. A., Wohlgenant, M. K., & Anderson, D. W. (2001, August 5–8). *Plant entry and exit from the meat packing industry during pathogen reduction and HACCP implementation*. Paper presented at the American Agricultural Economics Association meetings, Chicago, IL.
- Muth, M. K., Karns, S., Anderson, D. W., & Murray, B. C. (2000, July 30–August 2). *Economic effects of post-harvest treatment requirements for oysters*. Paper presented at the American Agricultural Economics Association meetings, Tampa, FL.
- Muth, M. K., & Anderson, D. W. (2000, June). *Economic impacts of post-harvest treatment requirements: Final report*. Presented to the Interstate Shellfish Sanitation Conference, Scottsdale, Arizona, March 2000, and to the Gulf and Southeast Atlantic Shellfish Association, New Orleans, LA.
- Muth, M. K., & Karns, S. A. (2000, June). *Economic effects of post-harvest treatment requirements for oysters*. Presented to the Center for Economics Research, Research Triangle Institute.
- Muth, M., & Anderson, D. (1999, March). *Economic impacts of post-harvest treatment requirements*. Presented to the Interstate Shellfish Sanitation Conference, New Orleans, LA.
- Muth, M., & Wohlgenant, M. K. (1999, January). *A test for market power using marginal input and output prices with application to the U.S. beef processing industry*. Principal paper presented to the Allied Social Science Associations meeting, New York, NY.
- Muth, M. K., & Wohlgenant, M. K. (1998, August). *A model of imperfect competition using marginal input and output prices: Application to the beef packing industry*. Paper presented at the American Agricultural Economics Association meetings, Salt Lake City, UT.
- Muth, M. K., & Wohlgenant, M. K. (1997, July 29). *Identifying the degree of oligopsony power in beef packing with variable proportions technology*. Paper presented at the American Agricultural Economics Association meetings, Toronto, Canada.
- Muth, M. K. (1996, July). *Identifying the degree of oligopoly power in the beef packing industry using interaction variables*. Paper presented at the American Agricultural Economics Association meetings in San Antonio, TX.
- Muth, M. K. (1996, February). *Identifying the degree of oligopoly power in the beef packing industry using interaction variables*. Presented at the Agricultural Economics Workshop, Department of Agricultural and Resource Economics, North Carolina State University, Raleigh, NC.
- Muth, M. K., Thurman, W. N., & Chuang, C.-T. (1996, February). *A postmortem of the honey support program*. Paper presented at the Southern Agricultural Economics Association meetings, Greensboro, NC.
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Selected Technical Reports

- Sweitzer, M., Byrne, A. T., Page, E. T., Carlson, A., Kantor, L., Muth, M. K., Karns, S., & Zhen, C. (2024). *Development of the food-at-home monthly area prices data* (Report No. TB-1965). U.S. Department of Agriculture, Economic Research Service.
- Muth, M. K., Kinney, S., Karns, S. A., Looby, C. B., Schafer, P., & Siegel, P. H. (2024). *User documentation: Store weights and replicate weights for InfoScan data, 2012–2020*. Report prepared for USDA, Economic Research Service.
- Vasquez Caballero, S., Cates, S. C., Muth, M. K., Love, E., & Goldfinger, D. (2024). *Results of informal discussions and semistructured interviews on estimating retail-level loss factors for the Loss-Adjusted Food Availability (LAFA) Data Series*. Report prepared for USDA, Economic Research Service.
- Giombi, K., Muth, M. K., Southwell, B., Caballero, S.V., Barefoot, A. G., & Tilley, A. A. (2023). *Expanded Literature Review on the Status of Health Equity Research as It Relates to FDA Programs and Policies*. Report prepared for the U.S. Food and Drug Administration.
- Giombi, K., Muth, M. K., Barefoot, A. G., & Tilley, A. A. (2023). *Dietary supplements literature review*. Report prepared for the U.S. Food and Drug Administration.
- Giombi, K., Muth, M. K., Barefoot, A., Eastman, M., & Tilley, A. (2022). *Literature review on the status of health equity research as it relates to FDA programs and policies*. Report prepared for the U.S. Food and Drug Administration.
- Love, E., Wood, D. W., Muth, M. K., & Cowell, C. R. (2022). *Results of trade model elasticity comparison analysis*. Report prepared for USDA, Foreign Agricultural Service.
- Muth, M. K., Karns, S. A., & Zhen, C. (2022). *Overview of food code mapping for ERS food purchase groups and the monthly food-at-home price database*. Report prepared for U.S. Department of Agriculture, Economic Research Service.
- Muth, M. K., Kinney, S., Trotta, M. N., Looby, C. B., & Siegel, P. H. (2021). *User documentation: Store weights for InfoScan data, 2012–2018*. Report prepared for U.S. Department of Agriculture, Economic Research Service.
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