

**Mindy Brashears**  
Texas Tech University  
Department of Animal and Food Sciences  
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## **EDUCATION**

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Oklahoma State University

Doctor of Philosophy in Food Science, Food Microbiology – August 1997

Master of Science in Food Science, Food Microbiology – May 1994

Texas Tech University

Bachelor of Science in Food Technology, Magna Cum Laude – May 1992

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## **CURRENT POSITION**

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Department of Animal and Food Sciences, Texas Tech University

Professor (September 2009 – Present)

Associate Professor (September 2004 – September 2009)

Assistant Professor (May 2001 – September 2004)

International Center for Food Industry Excellence (ICFIE), Texas Tech University, Director

Center for Biodefense, Law and Public Policy, Texas Tech University School of Law, Faculty Member

West Texas A&M University, Adjunct Faculty Member

### **Responsibilities**

#### Administrative

Secure and manage funding for center. Coordinate promotional activities. Supervise center staff.

#### Research

Conduct research to address current food safety issues in both pre-harvest and post-harvest environments. Specific projects include an evaluation of direct-fed microbials and other interventions to reduce *E. coli* O157:H7 in cattle, beef and spinach, determination of the correlation of shedding *E. coli* O157:H7 in the feedlot and contamination of the carcasses with pathogens, risk factors associated with the emergence of antimicrobial drug resistance, and validation of critical control points (CCPs) in beef, pork, poultry, and leafy green processing environments.

#### Teaching

Teach undergraduate and graduate courses in food microbiology, food safety, HACCP and grant writing.

#### Outreach

Assisting food processors with HACCP training and HACCP validation and verification. Conduct workshops on HACCP, Advanced HACCP, Sanitation, and Recalls.

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## PREVIOUS EXPERIENCE

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University of Nebraska, Department of Food Science and Technology

Assistant Professor, Extension Food Safety Specialist (August 1997 – May 2001)

*Responsibilities*

Extension: Assisted the food industry with the implementation of HACCP programs, sanitation, preservation, and various other food safety issues.

Research: Conducted research related to applied food safety needs of the food industry including microbial interventions and HACCP validation in both pre- and post-harvest environments.

Oklahoma State University, Department of Animal Science

Graduate Research Assistant (August 1992 – August 1997)

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## CURRENT EDUCATIONAL ACTIVITIES

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Undergraduate Courses

Food Microbiology

Food Safety

Graduate Courses

Food Microbiology

Current Topics in Food Microbiology

Food Safety

Grant Writing

Seminar

Director of Texas State FFA Food Science Contest for High School Students

Co-Director of Bob Albin Graduate Student Paper Competition

National Media Spokesperson for “Best Food Nation”

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## EXTENSION and OUTREACH ACTIVITIES

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Designated as a Lead Instructor for the International HACCP Alliance

HACCP Training for Food Processors

HACCP Plan Development

HACCP Plan Verification

HACCP Plan Re-Assessment

Introductory HACCP Courses

Advanced HACCP Courses

Individualized HACCP Training for Processors

HACCP Plan Validation through Research in Pathogen Processing Area

On-Line HACCP

Spanish On-Line HACCP

In-Depth Verification Review Assistance

## Recall Workshops and Recall Plan Development

Sampling Plan Development  
Sanitation Workshops  
Crisis Management during Recalls  
Food Security

## Specialized Training Courses Completed

International HACCP Alliance's Train the Trainer Course  
Food Processors Institute's Advanced HACCP Workshop: Verification and Validation  
National Association of Meat Processors In-Depth Verification Workshop  
National HACCP Education Conference  
American Meat Association Sampling for Control of *Listeria monocytogenes* Workshop

## Food Safety Website ([www.foodsafety.ttu.edu](http://www.foodsafety.ttu.edu))

Designed, created and maintain a food safety website to educate consumers and food industry professionals about safe food handling  
Developed downloadable forms to be used for developing HACCP plan  
Answer consumer and processor questions about Food Safety and HACCP  
Member of the USDA Food Safety Website Coordinators Group

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## HONORS

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- Keynote Address Speaker – International Congress on Meat Science and Technology (ICOMST) in Cork, Ireland, 2017
- Fellow – National Academy of Inventors, (first for a faculty member from Texas Tech), 2016
- Top 25 Future Icon of the Beef Industry – National Provisioner Magazine, 2016
- Scientist of the Year – Lubbock chapter of the Achievement Rewards for College Scientists (ARCS) Foundation, 2014
- Laboratorian Award – International Association for Food Protection, 2014
- Hill Seminar Distinguished Scientist – Penn State University, 2012
- Farm Foundation – Exemplary Teamwork and Collaboration Award, 2011
- CASNR Advising Award – Texas Tech University, 2010
- Distinguished Achievement Award – American Meat Science Association, 2009
- “20 Under 40” Award – Young Professionals of Greater Lubbock, 2008
- Advanced Degree Graduate of Distinction – Oklahoma State University, 2008
- Big 12 Rising Star Award for Innovation In Research and Technology Transfer, 2006
- Research Award – College of Agricultural Sciences and Natural Resources (CASNR), Texas Tech University, 2005
- Selected as one of the top 6 experts in the United States on *E. coli* O157 to participate in the FSIS *E. coli* O157 Expert Solicitation Panel, 2005

- Invited as one of the top 30 scientists in the world to participate in a scientific panel, “Probiotic Microbes: The Scientific Basis” by the American Academy of Microbiology, the honorific leadership group of the American Society for Microbiology, November 2005
- USDA NRI Panel Manager – Food Safety, 2001 and 2002
- USDA NRI Panel Member – Food Safety, 2000
- *E. coli* O157 Task Force – National Cattleman’s Beef Association
- Burroughs Wellcome Fund Visiting Professorship in Microbiological Sciences – American Society for Microbiology – Served as a visiting professor in Food Safety and HACCP at the University of Puerto Rico, Humacao
- Appointed to Scientific Review Team for the USDA Risk Assessment for *E. coli* O157:H7, 2004
- Excel Food Safety Team Member to give presentations on Food Safety in North America, 2002
- Editorial Board, Journal of Food Protection
- Editorial Board of the Journal of Food Science
- Editorial Board of the Journal of Animal Science, Meat Science Section
- Silver Award for HACCP Video – National Ag Communicators of Tomorrow
- Epsilon Sigma Phi Team Award – Urban Pest Management Team, 1999
- Outstanding Ph.D. Student in the Department of Animal Science, Oklahoma State University, 1997
- E.M. Ahmed Graduate Student Scientist Award, 1997
- Joe V. Whiteman Award for Outstanding Graduate Student Research Paper, 1994 and 1997
- Sigma Xi
- Phi Kappa Phi
- Gamma Sigma Delta
- Golden Key
- Alpha Zeta
- Cardinal Key
- Alpha Lambda Delta
- Phi Tau Sigma

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## ORGANIZATIONAL CITIZENSHIP

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### **National**

#### Member

American Society for Microbiology  
 International Association for Food Protection  
 Institute of Food Technologists  
 American Meat Science Association  
 Conference for Research Workers and Animal Diseases (Elected Membership, 2004 – Present)  
 National Alliance for Food Safety

#### Chair

S-295 USDA Multi-State Research Project, Food Safety

Other Offices Held: Secretary and Chair-Elect  
National Alliance for Food Safety and Security

Board of Directors

National Alliance for Food Safety and Security

Editorial Boards

Ommega Publishers

Journal of Food Protection

Journal of Animal Science, Meat Science Section

Journal of Food Science

Ad Hoc Reviewer for JAVMA, International Journal of Food Microbiology, Journal of Food Safety, Applied and Environmental Microbiology

Editor Selection Committee

Journal of Food Protection, 2014

Award Committee

International Association for Food Protection, 2013 – 2014

Program Committee

International Association for Food Protection, 2010 – 2013

Steering Committee

Journal of Food Protection

Operations Committee

National Alliance for Food Safety

**State**

Agro Medicine Consortium – Organizational Committee

Nebraska's Farm to Table Food Safety Group

Nebraska Poultry Industry – Former Board Member

Nebraska Association of Milk, Food and Environmental Sanitarians Former Treasurer and President

Phi Tau Sigma – Former President

Nebraska Animal Production – Food Safety Coalition

Aksarben Section of IFT – Former President

**University**

Committee to Establish the National Academy of Inventors – TTU Chapter

Task Force for Review of University Centers

Undergraduate Research Task Force

Provost Search Committee

CASNR Dean Search Committee

Tenure Grievance Committee

Misconduct in Research Committee

Review Committee for Engineering Centers

**College**

CASNR Visioning Committee, Co-Chair

Research Committee, Chair

Dean Search Committee

**Department**

Graduate Committee

Curriculum Committee

Recruitment Committee

Advisor, Food Tech Club  
Bob Albin Graduate Student Research Competition Chair  
Committee for Student Recruitment

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## **INTERNATIONAL EXPERIENCES**

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### **SOWER Scholars Program**

Founder of the SOWER (Sustaining Our World Through Education and Research) program for student mentoring

Currently Conducting Research and Teaching Programs in the Following Countries: Mexico, Honduras, Costa Rica, Bahamas, Barbados, Panama, Nicaragua, Belize, and Colombia.

### **Collaborations with Governments / Ministers of Agriculture**

Honduras (President and Minister of Agriculture)

Belize

Bahamas

Nicaragua

### **Collaborations with Universities**

Universidad Nacional de Autonomia (UNA) Honduras

University of Burgundy

Universidad Zamorano

Bahamas Agriculture and Marine Science Institute (BAMSI)

Bahamas Agricultural and Industrial Corporation (BAIC)

### **Research Projects**

Pathogen Baselines in Beef and Produce (Salmonella & E. coli O157:H7) in Honduras

Shrimp Biosecurity Plan Evaluation & Audit for the Honduran Government to Prevent Early Mortality Syndrome (in collaboration with SENASA)

Pathogen Baselines in Goats and Goat Meat in the Bahamas (in collaboration with IICA and BAMSI)

Food Safety, Animal Nutrition and Meat Science Project in Honduras to Establish Sustainable Production Systems in Honduras for Cattle (in collaboration with government and 9 farms)

### **Workshops**

Hosted 50 students from Universidad Nacional Autonomia de Honduras (UNAH) for week of Trainings in Food Safety and Meat Processing, 2015

Meat School en Español for International Participants, Texas Tech, 2016

Meat Processing and Food Safety Workshop in the Bahamas, 38 Participants, 2016

Developing Value-Added Meat Products and Food Safety Programs in the Bahamas, 50 Participants, 2016

Food Safety, Meat Quality and Animal Production in the Bahamas, 66 Participants, 2016

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## RESEARCH SUMMARY

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### Grants Received

#### National, Commodity, Industry Funding

Total	\$20.1 Million
Texas Tech University	\$18.1 Million
University of Nebraska	\$ 2.0 Million

Mindy Brashears, Kendra Nightingale, Jhones Sarturi, Alejandro Echeverry and Mark Miller. 2016. Alternatives to Subtherapeutic Antibiotics in Beef Cattle Feeding to Improve Performance and Mitigate Emergence of Antimicrobial Drug Resistance. Texas Beef Council. \$50,000

Mindy Brashears, Todd Brashears, Marcos Sanchez, Mark Miller, Alejandro Echeverry and Carlos Carpio. 2016. Developing a Generation of Agricultural Change Agents in the Battle for Food Security through Capacity Building. US Department of Agriculture – National Institute of Food and Agriculture. \$750,000

Mindy Brashears, Todd Brashears, Kendra Nightingale, Mark Miller and Alejandro Echeverry. 2016. Antibiotic Resistance Surveillance in Retail Food Specimens in the Southwestern United States – US Food and Drug Administration. \$700,000

Mindy Brashears, Mark Miller, Todd Brashears, Jhones Sarturi, Sam Jackson, Carlos Carpio and Alejandro Echeverry. 2016. Building Capacity in the Honduran Cattle, Sheep and Goat Industries through Investment in Research and Education. \$400,000

Mindy Brashears. 2016. Borlaug Higher Education for Agricultural Research and Development (BHEARD) – Rwanda. US Agency for International Development (USAID) / Michigan State University. \$138,000

Mindy Brashears and Kendra Nightingale. Inhibition of *Listeria monocytogenes* on Soft Cheese using Lactic Acid Bacteria as a Biocontrol System Intervention. Dairy Management, Inc. \$65,000

Alejandro Echeverry and Mindy Brashears. 2016. Evaluating the Potential Non-Thermal Effects of Microwave Irradiation Treatments for STEC Decontamination of Fresh and Frozen Beef Intended for Non-Intact Beef Products. \$100,000

Cynthia McKinney and Mindy Brashears. 2016. Graduate Education at the Nexus of Global Horticulture and Human Nutrition to Enhance Community Resilience and Food Security. US Department of Agriculture – National Institute of Food and Agriculture. \$175,000

Mindy Brashears, Chance Brooks, and Sara Trojan. 2015. Antioxidant capacity and meat color stability of beef samples from cattle fed a feed supplement. Nutrition Physiology Corp. \$33,913

Mindy Brashears and Todd Brashears. 2015. Global Agricultural Innovation Initiative. Texas Department of Agriculture. \$50,000

Mindy Brashears, Chance Brooks, and Kendra Nightingale. The Effectiveness of Lactic Acid and Peracetic Acid Treatments on Beef Trim, Combined with Acidified Sodium Chlorite in Reducing Multiple Salmonella Serovars During Grinding. American Meat Institute Foundation. \$115,262

Capacity building. United State Department of Agriculture 2015. - \$120,000

Mindy Brashears and Kendra Nightingale. 2015. Pathogen Inhibition: Mechanisms and Environmental Studies. Nutrition Physiology Corp, \$122,000

Mindy Brashears, Marie Bugarel, Guy Loneragan, and Kendra Nightingale. 2014. Characterization and Discrimination of Salmonella using Molecular and Novel Challenge model Approaches. United States Department of Agriculture. \$200,000

Mindy Brashears and Guy Loneragan. 2014. Host, genetic, microbial, and environmental factors associated with Shiga toxin-producing Escherichia coli (STEC) shedding – United States Department of Agriculture. Subaward from Michigan State University. PI – Shannon Manning. Total Grant Amount \$1.2 Million. TTU Amount \$284,662

Mindy Brashears, Marcos Sanchez and Alejandro Echeverry. 2014. Determination of D and Z values of Salmonella ssp. in Rendered Products. Fats and Protein Research Foundation. \$22,000

Brashears, M. 2013-2015. Building Laboratory and Intellectual Capacity in order to Effectively Detect and Reduce Salmonella in the Food Supply. USDA/NIFA. \$693,047

Brashears, M. 2012-2015. Characterization and Discrimination of Salmonella using Molecular and Novel Challenge-model Approaches. Pfizer \$200,000

Brooks, J.C., M.M. Brashears, and A. Echeverry. 2013. The Risk and Thermal Susceptibility of Non-O157:H7 Shiga-toxin Producing Escherichia coli in Non-Intact Beef Products Intended for Food Service or Retail. National Cattlemen's Beef Association. \$149,952 (\$49,484)

Mindy Brashears, Chance Brooks, and Alejandro Echeverry. Impact of Needle Tenderization on the Safety of Beef. National Cattlemen's Beef Association. \$150,000

Mindy Brashears, Marie Bugarel, Guy Loneragan, and Kendra Nightingale. Characterization and Discrimination of Salmonella using Molecular and Novel Challenge model Approaches. United States Department of Agriculture. \$200,000

Mindy Brashears, Mark Miller, Todd Brashears. 2013. Reduction of E. coli O157:H7 in Small-Scale cow/calf operations using Best Management Practices. United States Department of Agriculture. Primary Institution – Oklahoma State University (Divya Jaroni). \$125,523

Mindy Brashears, J. Chance Brooks, Alejandro Echeverry, Guy Loneragan, Mark Miller, and Kendra Nightingale. Mitigation of Salmonella in Lymph Nodes using a Pre-harvest Intervention. American Meat Institute Foundation. \$89,914

Mindy Brashears, J Chance Brooks, and Guy Loneragan. Determining the Incidence and Antimicrobial Susceptibility of Salmonella Serovars Isolated from U.S. Retail Ground Pork, National Pork Board, \$56,657

M. Todd Brashears, Mindy Brashears, Guy Loneragan, Markus Miller, and Kendra Nightingale. Building Laboratory and Intellectual Capacity in Order to Effectively Detect Salmonella in Food Supply, USDA, \$749,930

Mindy Brashears, J. Chance Brooks, Alejandro Echeverry, Lacey Guillen, and Guy Loneragan. E. coli O157:H7 as an Indicator for the "Big 6" STECs, National Cattlemen's Beef Association, \$50,000



Mindy Brashears and Guy Loneragan, Determine Whether a Commercially Available Vaccine is able to Clear Challenged induced Salmonella Lymph Node Colonization, National Cattlemen's Beef Association, Total \$40,100, TTU Total \$20,050

Mindy Brashears, Alejandro Echeverry, Guy Loneragan, and Markus Miller, Establishment of a Non-O157 Shiga-toxin Producing E.coli (STEC) Baseline, National Cattlemen's Beef Association, TTU Total \$40,000

Mindy Brashears and Guy Loneragan, Evaluation of E.coli O157 Extract Vaccine on Prevalence of non-O157 Shiga-toxin Producing E.coli (STEC), National Cattlemen's Beef Association, Total \$90,524, TTU \$40,262

Michel Brashears, Mindy Brashears, and Alejandro Echeverry, FAS Capacity Building and Assessment of Capabilities and Deficiencies of the Asia-Pacific Economic Cooperation (APEC) Laboratory Network, USDA, TTU Total \$14,332

Mindy Brashears, Host, Genetic, Microbial, and Environmental Factors Associated with Shiga Toxin-producing Escherichia coli (STEC) Shedding, USDA, TTU \$48,703

Mindy Brashears and Guy Loneragan, Pilot Testing Project for Animal NARMS Sampling, USDA, TTU Total \$48,000

Mindy Brashears and Guy Loneragan Quantification of the Relationship between Distiller's Grain Co-products and Escherichia coli O157:H7: Load in Real-world, Commercial Feedlot Settings, USDA, Total \$399,437, TTU \$199,718

Mindy Brashears, and Chance Brooks, SUPPLEMENT: Methods for Effectively Controlling E. coli O157:H7 and Salmonella during the Production of Non-intact Beef Products, National Cattlemen's Beef Association, Total \$15,000, TTU \$7,500

Mike Ballou, Michel Brashears, Mindy Brashears, Chance Brooks, Guy Loneragan, Markus Miller, Solutions for the Food Safety Threat Posed by Salmonella in the Lymph Nodes of Cattle Presented for Harvest, USDA, TTU \$597,045

Mike Ballou, Michel Brashears, Mindy Brashears, Chance Brooks, Guy Loneragan, Markus Miller, Solutions for the Food Safety Threat Posed by Salmonella in the Lymph Nodes of Cattle Presented for Harvest, National Cattlemen's Beef Association matching funds to USDA grant, TTU \$150,000

Mindy Brashears and Guy Loneragan. Host, genetic, microbial, and environmental factors associated with Shiga toxin-producing Escherichia coli (STEC) shedding – United States Department of Agriculture. Subaward from Michigan State University. PI – Shannon Manning. Total Grant amount \$1.2 Million. TTU Amount - \$284,662

Mindy Brashears, Mark Miller, Chance Brooks, Christine Alvarado, Pawan Takhar, Leslie Thompson, Todd Brashears, Shelly Harp, Deb Reed, Janice Boyce, Center for Food Industry Excellence, Texas – 2010, United States Department of Agriculture, \$843,000

Mindy Brashears, Guy Loneragan, Tony Bryant, John Ruby. Evaluation of E. coli O157 Bacterial Extract Vaccine, National Cattlemen's Beef Association, \$130,811

Mindy Brashears, Guy Loneragan, Dayna Harhay, Tom Edirington. Identification and Characterization of Population(s) at Greatest Risk for Presence of Salmonella within Lymph nodes, National Cattlemen's Beef Association, \$144,835

J. Chance Brooks, Mindy Brashears, Mark Miller, The Effect of Acidified Sodium Chlorite, Lactic Acid, and Cooking on the Survivability of *E. coli* in Needle Tenderized Beef Steaks, National Cattlemen's Beef Association, \$65,057

Mindy Brashears, Mark Miller, Chance Brooks, Christine Alvarado, Pawan Takhar, Leslie Thompson, Todd Brashears, Shelly Harp, Deb Reed, Janice Boyce, Center for Food Industry Excellence, Texas – 2009, United States Department of Agriculture, \$845,000

Mindy Brashears, Mark Miller, Todd Brashears. 2009. Reduction of *E. coli* O157:H7 in Small-Scale cow/calf operations using Best Management Practices. United States Department of Agriculture. Primary Institution – Southern University (Divya Jaroni). Awarded Amount: \$1.0 million TTU Amount: \$400,000

Mindy Brashears, Mark Miller, Todd Brashears, Chance Brooks, Brad Johnson. 2009. Quantification of the Relationship between Distiller's Grains Co-Products and *Escherichia coli* O157:H7 Load in Real-World, Commercial Feedlot Settings. United States Department of Agriculture. Primary Institution – West Texas A&M University (Guy Loneragan). Awarded Amount: \$800,000 TTU Amount: \$285,000

Brooks, J.C., M.M. Brashears and M.F. Miller. 2009. The Effect of Acidified Sodium Chlorite, Lactic Acid, and Cooking on the Survivability of *E. coli* in Needle Tenderized Beef Steaks. National Cattlemen's Beef Association. \$53,057

Mindy Brashears, Mark Miller, Chance Brooks, Christine Alvarado, Pawan Takhar, Leslie Thompson, Todd Brashears, Shelly Harp, Deb Reed, Janice Boyce, Center for Food Industry Excellence, Texas – 2008, United States Department of Agriculture, \$943,353, \$179,237

Mindy Brashears, Mark Miller, Todd Brashears, Minimizing Microbial Food Safety Hazards of Fresh and Fresh-Cut Fruits and Vegetables Through a Farm to Table Approach, United States Department of Agriculture, \$199,675, \$65,892

Mindy Brashears, Guy Loneragan (WTAMU), Morgan Scott, Bo Norby (TAMU)

Novel Pre-Harvest Intervention to protect Antimicrobials of Critical Importance in Human and Veterinary Medicine. United States Department of Agriculture. Total Award: \$900,000 (TAMU) Texas Tech Amount: \$88,000

Mark Miller, Chance Brooks, Mindy Brashears, Evaluation of Shelf Life of Australian Beef. Meat Livestock Australia. \$122,000

Mindy Brashears, Enusha Karunasena, The Consequences of Feed Withdrawal from Cattle and Its Effect on Pathogenic *Escherichia coli* O157:H7 Distribution, Proliferation and Virulence: A Model of Transportation Stress on Cattle & Pathogen. South Plains Foundation. Total amount- \$15,000

Mindy Brashears, Mark Miller, Chance Brooks, Carcass Mapping to Determine *E. coli* O157 Distribution on Beef Carcasses, National Cattlemen's Beef Association, \$103,773, \$41,509

Christine Alvarado, Pawan Takhar, Mindy Brashears, Control of *Listeria monocytogenes* on Contact and Non-Contact Surfaces by Electrostatic Spraying of Sanitizers, United States Poultry and Egg Association, \$40,890, \$12,267

Chance Brooks, Mark Miller, Mindy Brashears, Impact of Ground Beef Packaging Systems and Temperature Abuse on the Quality of Ground Beef, National Cattleman's Beef Association, \$31,623, \$12,649

Chance Brooks, Mark Miller, Mindy Brashears, Impact of Ground Beef Packaging Systems and Temperature Abuse on the Safety and Quality of Ground Beef, American Meat Institute Foundation, \$63,245, \$25,298

Chance Brooks, Mark Miller, Mindy Brashears, Impact of Ground Beef Packaging Systems and Temperature Abuse on the Safety of Ground Beef, National Cattleman's Beef Association, \$31,623, \$12,649.

Mindy Brashears, Mark Miller, Chance Brooks, Todd Brashears, Pre-Harvest Critical Control Points in Feed Yards to Prevent Cross-Contamination of Pathogens onto Cattle and Other Environmental Areas, United States Department of Agriculture, \$597,652, \$179,295

Chance Brooks, Mark Miller, Mindy Brashears, The Survivability, Growth and Heat Susceptibility of *E. coli* O157:H7 in Enhanced Beef Brine Solutions Containing Salt, Potassium Lactate, National Cattleman's Beef Association, \$125,500, \$50,200

Mindy Brashears, Margaret Brinkley, Improving Hand Hygiene Compliance in Restaurants, United States Department of Agriculture/Regents of the University of California, \$195,262, \$48,815

Shelley Harp, Brent Shriver, Janice Boyce, Mark Miller, Leslie Thompson, Chance Brooks, John Blanton, Kevin Pond, Pawan Takhar, Christine Alvarado, Mindy Brashears, Todd Brashears, Center for Food Industry Excellence, United States Department of Agriculture, \$1,266,717, \$291,344

Chance Brooks, John Blanton, Mark Miller, Mindy Brashears, Development and Validation of Intervention Strategies to Control *Escherichia coli* O157:H7 and *Salmonella* spp in Needle Tenderized and Injected Beef, National Cattleman's Beef Association, \$134,073, \$60,332

Mindy Brashears, Inter-Lab Comparison Study, National Cattleman's Beef Association/Washington State, \$7,200, \$7,200

Mindy Brashears, Mark Miller, Chance Brooks, Phase 1: Food - The Effect of Meat Packaging Technologies on the Safety and Spoilage- Indicating Characteristics of Ground Beef, National Cattleman's Beef Association, \$40,732 , \$13,848

Chance Brooks, Mark Miller, Mindy Brashears, Phase 2: Spoilage - The Effect of Meat Packaging Technologies on the Safety and Spoilage-Indicating Characteristics of Ground Beef, National Cattleman's Beef Association, \$87,752, \$28,958

Mark Miller, Chance Brooks, John Blanton, Mindy Brashears, Reduction of Food-Borne Pathogens on Cattle During Loading through Control of Dust Generation, National Cattleman's Beef Association, \$66,550, \$19,965

Mark Miller, Chance Brooks, Mindy Brashears, Reduction of the Food-Borne Pathogens Salmonella on Cattle During Loading through Control of Dust Generation at the Feedlot, National Cattleman's Beef Association, \$66,824, \$22,051

Mindy Brashears, Christine Alvarado, John Blanton, Chance Brooks, Mark Miller, Risk Factors and Consequences Associated With Condensation in Fresh and Ready-to-Eat Processing Facilities, American Meat Institution Foundation, \$95,445, \$19,089

Mindy Brashears, Enusha Karunasena, Chance Brooks, Mark Miller, The Consequences of Stress and Diet on the Immune and Endocrine Systems of Cattle and Their Effects on the Seasonal Shedding of Escherichia coli 0157:H7, National Cattleman's Beef Association, \$90,089, \$36,035

Mindy Brashears, Michael Galyean, Reduction of E. coli 0157 in Beef Feedlot Cattle Using Varying Doses of a Direct-Fed Microbial, Nutrition Physiology Corporation, \$172,770, \$43,192

Mindy Brashears, Comparison of Rapid and Immunomagnetic Separation Methods for Detection and Quantification of E. coli 0157 in Fecal, Hide and Carcass, National Cattleman's Beef Association, \$84,132, \$84,132

Christine Alvarado, Mindy Brashears, Controlling Listeria Monocytogenes in Further Processed Meat, National Alliance for Food Safety and Security, \$107,847, \$26,961

Todd Brashears, Mark Miller, Mindy Brashears, Development of a Pre-Harvest Educational Program for Cattle Producers- Food Safety Inspection Service, United States Department of Agriculture, \$50,190, \$16,562

Christine Alvarado, Todd Brashears, Mindy Brashears, Development of an Online HACCP Certification and Hazard Analysis Resource List for Shell and Further Processed Eggs - Food Safety Inspection Service, United States Department of Agriculture, \$35,293, \$11,646

Mark Miller, John Blanton, Chance Brooks, Mindy Brashears, Effects of Dust Cloud Cross-Contamination on E. coli 0157 and Salmonella during Cattle Transport, National Cattleman's Beef Association, \$68,125, \$17,181

Mindy Brashears, John Blanton, Feedlot Production Practices and Their Impact on Pre- and Post-Harvest Antimicrobial Susceptibility Patterns of Enteric Bacteria, National Cattleman's Beef Association/West Texas A&M University, \$428,841, \$428,841

Christine Alvarado, John Blanton, Mindy Brashears, Inhibition of Campylobacter in Whole Chicken Carcasses Using Intervention Technologies, Supachill USA Inc., \$43,285, \$21,642

Mindy Brashears, Michael Galyean, Reduction of E. coli 0157 in Beef Feedlot Cattle Using Varying Doses of a Direct-Fed Microbial, Nutrition Physiology Corporation, \$172,770, \$43,192

Chance Brooks, Mark Miller, Todd Brashears, Mindy Brashears, Reduction of E. coli and Salmonella in Ground Beef Using Rosemary Oleoresin and Oregano Essential Oils - Food Safety Inspection Service, United States Department of Agriculture, \$50,350, \$12,587

Mark Miller, Chance Brooks, Todd Brashears, Mindy Brashears, Reduction of Escherichia coli 0157:H7 and Salmonella ssp. Using Dry Chilling in Small Processing Plant Environments - Food Safety Inspection Service, United States Department of Agriculture, \$50,000, \$12,500

John Blanton, Chance Brooks, Mark Miller, Mindy Brashears, Validation of Trichloromelamine as an Effective Hide Wash Technology, National Cattleman's Beef Association, \$61,262, \$15,315

Mindy Brashears, Christine Alvarado, Chance Brooks, Todd Brashears, Verification of Microwave Technology for the Elimination of Food-Borne Pathogens in Whole Shell Eggs and the Development of New Applications in the USA Food Industry, ITACA, \$55,711, \$13,927

Mindy Brashears, Mark Miller, Application of Antimicrobial Treatments in a Commercial Stimulation to Reduce *E. coli* 0157:H7 and *Salmonella* spp. in Beef Trim and in Ground Beef, National Cattleman's Beef Association, \$80,285, \$40,342

Shelley Harp, Brent Shriver, Janice Boyce, Mark Miller, Leslie Thompson, Chance Brooks, John Blanton, Kevin Pond, Pawan Takhar, Christine Alvarado, Mindy Brashears, Todd Brashears, Center for Food Industry Excellence- CSREES, U.S. Department of Agriculture, \$2,518,213, \$306,628

Christine Alvarado, Mindy Brashears, Leslie Thompson, Comparison of Wire and Plastic Belts on Microbial Load and Biofilm Formation, Wirebelt Company, \$34,100, \$8,525

Mindy Brashears, Impact of Feeding Neomycin on the Emergence of Antimicrobial Drug Resistance in *E. coli* 0157, *Salmonella* spp. and Commensal Organisms in Cattle, National Cattleman's Beef Association, \$67,450, \$67,450

John Blanton, Mindy Brashears, Brett Barham, Chance Brooks, Mark Miller, Impact of Transportation of Feedlot Cattle to the Harvest Facility on the Prevalence of *E. coli* 0157:H7 and *Salmonella* spp., National Cattleman's Beef Association, \$79,640, \$15,928

Mindy Brashears, Microbial Testing to Determine Effects of Live Cultures of *Lactobacillus acidophilus* on Shedding of *E. coli* 0157:H7 in Finishing Beef Steers, Nutrition Physiology Corporation, \$157,424, \$91,400

Mindy Brashears, Chance Brooks, Todd Brashears, Mark Miller, Guy Loneragan, Pre-Harvest Critical Control Points in Feed Yards to Prevent Cross-Contamination of Pathogens into Cattle and other Environmental Areas, USDA – Integrated Research, Extension and Education Program, \$597,652

Mark Miller and Mindy Brashears, Impact of dust "A pathogen Cloud" during loading of feedlot cattle during transportation to the harvest facility on the Prevalence of *E. coli* 0157:H7 and *Salmonella* spp. Phase II, National Cattleman's Beef Association \$130,000

Mindy Brashears and Todd Brashears, Foundation Account Food Safety Research, Nutrition Physiology Corporation, \$180,000

Guy Loneragan and Mindy Brashears, Improvements in microbial quality of retention-pond water in response to copper sulfate treatment, Five Rivers, \$26,000

Mindy Brashears, Chance Brooks, Christine Alvarado, Leslie Thompson, Shelf-Life Validation Study, Chili's, \$55,000

Mindy Brashears and Guy Loneragan, Identification of the at-risk population(s) for shedding *Salmonella* in harvest-ready cattle-Phase I, National Cattleman's Beef Association, \$66,000

Mindy Brashears and Guy Loneragan, Identification of the at-risk population(s) for shedding *Salmonella* in harvest-ready cattle-Phase II, National Cattleman's Beef Association, \$100,000

Mindy Brashears, Guy H. Loneragan, Randall S. Singer, Daniel U. Thomson, Michael J. Engler, Feedlot production practices and their impact on pre- and post-harvest antimicrobial susceptibility patterns of enteric bacteria, USDA Cooperative Research, Education and Extension Service, \$1,465,767

Mindy Brashears, Mark Miller, Chance Brooks, John Blanton, Todd Brashears. Reduction of *E. coli* O157:H7 and *Salmonella* spp. in ground beef using a novel intervention system combining pathogen reduction methods and replacement of natural flora with lactic acid bacteria, USDA-FSIS, \$50,000

Christine Alvarado and Mindy Brashears, Controlling *Listeria monocytogenes* in further processed meat, National Alliance for Food Safety and Security, \$250,000

Mike Galyean, Guy Loneragan, Mindy Brashears, Reduction of *E. coli* O157 in Beef Feedlot Cattle using Varying Doses of a Direct-Fed Microbials, Nutrition Physiology Corporation, \$140,000

Mindy Brashears, Guy Loneragan, Comparison of Rapid and Immunomagnetic Separation Methods for Detection and Quantification of *E. coli* O157 in Fecal, Hide, Carcass and Ground Beef Samples, National Cattleman's Beef Association, \$79,182

Mindy Brashears, Guy Loneragan, Mike Engler, David Smith, Rodney Moxley Bioniche. Effect of administration of a novel, pre-licensure vaccine on prevalence and bacterial concentration in harvest-ready feedlot cattle, \$127,330

Mindy Brashears, Michael S. Brown, Guy H. Loneragan, Influence of direct-fed microbials on *E. coli* O157 by yearling beef steers, Nutrition Physiology Corp., \$90,000

Mindy Brashears, Guy H. Loneragan, Validation of Sampling Methods to Determine the Prevalence of *E. coli* O157:H7 in Beef Feedlot Cattle, National Cattlemen's Beef Association, \$21,875

Mindy Brashears, Guy H. Loneragan, , Impact of feeding neomycin on the emergence of antimicrobial drug resistance in *E. coli* O157, *Salmonella* spp. and commensal organisms in cattle. National Cattlemen's Beef Association, \$67,450

Mindy Brashears, Reduction of *E. coli* O157:H7 in Beef Feedlot Cattle using Varying Doses of a Direct-Fed Microbials, American Meat Institute/National Cattleman's Beef Association, \$154,000

Mindy Brashears, Validation of Multi-Hurdle Antimicrobial Treatments to Reduce *E. coli* O157 and *Salmonella* spp. in Beef Trim and Ground Beef in Small and Very Small Processing Facilities, USDA/FSIS, \$25,000

Mindy Brashears, Guy Loneragan, Impact on Hide Interventions and Cleaning on the Microbial Quality of Beef Carcasses in Small and Very Small Processing Plants, USDA/FSIS, \$25,000

Mindy Brashears, Guy Loneragan, Reduction of *Salmonella* and *E. coli* O157:H7 in beef cattle in commercial feedlots, Nutrition Physiology Corporation, \$61,000

Mindy Brashears, Pen Origin Dust Control Using Feedlot Effluent and *E. coli* O157 Status of Market Ready Feedlot Cattle, ContiBeef, \$50,000

Mindy Brashears, Validation of Interventions to be Used in Small and Very Small Meat Processing Facilities, USDA - Integrated Research, Extension and Education Program, \$600,000 (Collaborators – Washington State University, Penn State University)

Mindy Brashears, James Smith, Multi-functional Web-based HACCP and Food Safety Course Development, USDA Integrated Research, Extension and Education Program. \$370,000 (Collaborators – University of Nebraska, Alabama A&M)

Mindy Brashears, Todd Brashears, HACCP Training and Research to Assist Meat Processors with Process Deviation for Lethality and Stabilization, \$511,000 (Collaborators – University of Nebraska, Kansas State University)

Mindy Brashears, Mike Galyean, Increasing the Marketing Value of Cottonseed as a Pre-Harvest Control Measure for *E. coli* O157:H7 in Feedlot Cattle, International Cotton Research Council, \$75,000

Mindy Brashears, Mark Miller, Determination of the Efficacy of a Lactic Acid Probiotic Treatment on the Reduction of *E. coli* O157 in Commercial Feedlot Settings, Nutrition Physiology/Excel , \$83,463

Mindy Brashears, Mark Miller, Microbiological Sampling for Microbial Tracking Study, National Cattlemen's Beef Association, \$25,900

Mindy Brashears, Mike Galyean, Ron Warner, Critical Step Validation for Pre-Harvest Microbial Food Safety Strategies, Texas Cattle Feeders, \$16,959

Mindy Brashears, Competitive Inhibition of *E. coli* O157:H7 and *Salmonella spp.* in Ground Beef Products, NCBA/TX Beef Council, \$19,160

Mindy Brashears, Pre-Harvest Food Safety Interventions, Nutrition Physiology Corporation, \$72,048

Mindy Brashears, Validation of Temperature Parameters as CCPs during Pork Fabrication, National Pork Producers Council, \$24,500

Mindy Brashears, Competitive Inhibition of *Listeria monocytogenes* in Ready-to-Eat Pork Products: Phase II, National Pork Producers Council, \$22,000

Mindy Brashears, Mike Galyean, Testing of Probiotic Bacteria for the Elimination of *Escherichia coli* O157:H7 in Cattle, American Meat Institute, \$123,000

Leslie Thompson, Linda Hoover, Kenny Wu, Mindy Brashears, Impact of high-speed chilling/freezing immersion in the microbiological and sensory quality of produce, Texas Tech Multidisciplinary Seed Grant, \$20,000

Leslie Thompson, Linda Hoover, Kenny Wu, Mindy Brashears, Impact of high-speed chilling/freezing immersion in the microbiological and sensory quality of produce, ATP, \$121,000

Mindy Brashears, Guy H. Loneragan, Critical-step validation for pre-harvest microbial food safety strategies, Houston Livestock Show and Rodeo, \$4,000

Mindy Brashears, Conrad Lyford, Kyle Dalh, Analysis of Pre-Harvest Food Safety Systems for the Beef Industry, Houston Livestock Show and Rodeo, \$5,000

Mindy Brashears, Feasibility of Carcass Submersion as a Post-Chill Intervention, Nebraska Beef, LTD, \$10,000

Kenny Wu, Leslie Thompson, Linda Hoover, Mindy Brashears. Probiotic Effects on Rat Intestinal Microstructure and Fecal Microbial and Organic Compound Profiles, Texas Tech University, \$10,000

Mindy Brashears, Evaluation of Intervention Strategies in Feedlot Environments, Nebraska Beef Council, \$120,000\*

Mindy Brashears, Extension and Education Program - Improving HACCP Systems for Small Meat and Food Processors in Four Midwest States, USDA Integrated Research, \$540,000\*

Mindy Brashears, CCP Identification and Validation during Poultry Production and Processing, USDA Special Research Grants Program, \$250,000\*

Mindy Brashears, HACCP Implementation/Management for Small Meat and Food Processors in 4 Midwest States, USDA Food Safety and Quality National Education Initiative, \$200,000\*

Mindy Brashears, Competitive Exclusion of *E. coli* O157:H7 in Cattle, Nutrition Physiology Corporation, \$120,000\*

Mindy Brashears, Isolation and Characterization of Antibiotic-Resistant Microorganisms from Poultry, Mussehl Poultry Research Endowment, \$15,000\*

Mindy Brashears, Inhibition of *Listeria monocytogenes* in Ready to Eat Poultry Products with Ionized Water, Mussehl Poultry Research Endowment, \$15,000\*

Mindy Brashears, Development of Generic Egg HACCP Models, USDA/FSIS, \$50,000\*

Mindy Brashears, Testing of Probiotic Bacteria for the Elimination of *Escherichia coli* O157:H7 in Experimentally Infected Cattle, MAFMA, \$24,000\*

Mindy Brashears, Competitive Inhibition of *Listeria monocytogenes* in ready to eat pork products, National Pork Producers Council, \$17,500\*

Mindy Brashears, Plan of Work - Food Safety Extension in Nebraska, USDA, \$30,000\*

Mindy Brashears, Delivery of "Introduction to HACCP Principles" Video to USDA Federally Inspected Very Small Meat and Poultry Processors, USDA/FSIS, \$21,658\*

Mindy Brashears, Translation to Vietnamese and Delivery of "Introduction to HACCP Principles" Video to USDA Federally Inspected Very Small Meat and Poultry Processors, USDA/FSIS, \$9,900\*

Mindy Brashears, Translation to Chinese, and Korean and Delivery of "Introduction to HACCP Principles" Video to USDA Federally Inspected Very Small Meat and Poultry Processors, USDA/FSIS, \$24,570\*

Mindy Brashears, Enhancing Food Safety through Control of Foodborne Disease Agents, Regional Research Project S-263, \$36,000\*

Mindy Brashears, Competitive Inhibition of Food-borne Pathogens in Meat, Layman Award, \$7,200\*

Mindy Brashears, Inhibition of Food-borne pathogens by *Lactobacillus lactis* during refrigerated storage in laboratory media, Research Grant-In-Aid, University of Nebraska, Research Council Office, \$2,784\*



Mindy Brashears, Microbial Verification of HACCP Systems in Meat Processing Establishments, Research Grant-In-Aid, University of Nebraska Research Council Office, \$4,000\*

Mindy Brashears, *E. coli* O157:H7 Research, State of Nebraska – Legislative Bill 1206, \$75,000\*

Mindy Brashears, Competitive Inhibition of Food-borne Pathogens in Poultry Products, Mussehl Poultry Research Endowment, \$10,000\*

Mindy Brashears, Shelly McKee, Efficacy of Feeding Egg IgY from Hens Immunized Against *Salmonella enteritidis* (SE) to Treat and Prevent SE Infection in Hens, Mussehl Poultry Research Endowment, \$10,000\*

Mindy Brashears, Effect of Probiotics on Enteric Colibacillosis, National Pork Producers Council, \$18,500\*

Mindy Brashears, HACCP Education for Extension Educators, University of Nebraska – IANR Extension Division, \$9,000\*

Mindy Brashears, Food Safety Extension in Nebraska, USDA – Plan of Work, \$20,000\*

*\*Awarded at University of Nebraska*

## **Invited Presentations**

### International

Brashears, M.M., Echeverry A. Advanced HACCP and Validation Workshop. TFCC, Universidad Pontificia Bolivariana, and the Colombian Food Technology Association (ACTA). Medellin, Colombia, June 2014. 32 Attendees.

Brashears, M.M., Sanchez M. Introduction to HACCP. IICA. Nassau, The Bahamas, April 8-12, 2014. 25 Attendees.

Brashears, M.M., Echeverry A., Miller, M. HACCP Implementation Program and Ante Mortem and Post Mortem Inspection. Costa Rican Beef Industry. San Jose de Costa Rica, Costa Rica, May 6-9, 2014. 40 Attendees.

Brashears, M.M., Trojan, S. Preventing Food Waste. BAIC (Bahamian Government). Nassau, The Bahamas, March 24, 2015. 50 Attendees.

Brashears, M.M. Implementation of Pathogen Reduction Programs and Baselines in Latin America – International Forum of Healthy Foods [*In Spanish: Implementación de Programas de Reducción de Patógenos y Marcos Base de Referencia en Latino América*]. Foro Internacional de Alimentos Sanos. Guadalajara, Jalisco, Mexico, Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria (SAGARPA) September 11-12, 2014.

Brashears, M.M. Improving the Beef Cattle System in the Bahamas. Focus group sessions. Invited by BAIC and IICA. October, 2014, Nassau. 60 Attendees.

Brashears, M.M. Food Safety and Security and Research at Texas Tech University. Presented at the Technology University of Panama. December 2014. Panama City, Panama. 100 Attendees.

Brashears, M.M. 2012. Food Safety Training and Research in Latin America. Presented at the Annual Latin American meeting of IFT. Guadalajara, Mexico. February 2012.

Brashears, M.M. 2012. International Center for Food Industry Excellence Food Safety Research. Presented to the Cattleman's Industry Association. San Salvador, El Salvador. March 2012.

Brashears, M.M. 2012. International Center for Food Industry Excellence: Research and Graduate School Opportunities. Presented at UNAM. Telecigalpa, Honduras. April 2012.

Echeverry, A. and M.M. Brashears. 2012. Comparación de Cargas Patogénicas en Plantas de Sacrificio TIF y No-TIF en México [Comparison of pathogenic loads from TIF and non-TIF slaughter plants in Mexico]. *5° Congreso Internacional del Caribe y 3° Congreso Latinoamericano "sobre Inocuidad, Calidad y Funcionalidad de los Alimentos en la Industria y Servicios de Alimentación"*. Mazatlan, Sinaloa, México, October 29 – November 2.

Parks, A. and M.M. Brashears. 2012. Overview of Food Safety Projects in Mexico. 5° Congreso Internacional "Sobre Inocuidad, Calidad Funcionalidad de los Alimentos en la Industria y Servicios de Alimentación" Mazatlán, Sinaloa, México October 29 – November 2.

Brashears, M.M. and A. Echeverry. 2010. Inocuidad de limentos: *Aproximacion Sistemática para el control de patógenos Intervenciones antimicrobianas en la planta de procesamiento avícola* " Food Safety, a Systems Approach - Antimicrobial Interventions in the Poultry Processing Environment". VIII Symposium in Poultry Processing and Safety in Queretaro, Mexico. October 28-29.

Brashears, T., M.M. Brashears, and A. Echeverry. 2010. *Estudio acerca del nivel educativo del personal involucrado en el sistema HACCP* "Evaluation of Participants' Knowledge scores in an International HACCP Workshop". VIII Symposium in Poultry Processing and Safety in Queretaro, Mexico. October 8-29.

Invited Speaker to the ProSafeBeef Conference in Dublin, Ireland, March 2009.

Invited Speaker to the VTEC (Verotoxin Producing *E. coli*) Meeting in Buenos Aires, Argentina, May 2009.

Keynote Speaker for the COMECARNE and MEXITEC Annual Convention. Results of a retail food safety survey we conducted in Mexico. November 2009.

Keynote Speaker for the COMECARNE Annual Convention. HACCP and Food Safety Needs in Mexico and the US. November 2008.

### National

Brashears, M.M. 2013. Food Safety Research of Mutual Interest to the U.S. and Latin America. FSIS Internal Presentation. November 2013.

Chaves, B., L. Garcia, A. Echeverry, M. Miller, and M.M. Brashears. 2013. Prevalence of *Salmonella enterica*, *Escherichia coli* O157:H7 and Non-O157 Shiga Toxin-producing *Escherichia coli* in Beef Cuts Sold at Retail Markets in Costa Rica. Presented at the 102<sup>nd</sup> annual meeting of the International Association for Food Protection, Charlotte, North Carolina. July 25-July 28.

Echeverry, A., and M.M. Brashears. 2013. Beef Safety: Mechanically Tenderized and Needle Enhanced Products and Foodborne Pathogens. Presented at the 2013 Beef Industry Safety Summit (BIFSCO). Dallas, Texas, March 13-15.

Echeverry, A., W.E. Chaney, G.H. Loneragan, J.C. Brooks, K. Nightingale and M.M. Brashears. 2013. Post-Harvest Pathogen Reduction Session: *Escherichia coli* O157:H7 as an Indicator for Efficacy of Antimicrobial Interventions to Control non-O157 Shiga Toxin Producing *E. coli* (STEC). Presented at the 2013 Beef Industry Safety Summit (BIFSCO). Dallas, Texas, March 13-15.

Brashears, M.M. 2012. Seeing a Global Perspective through the Microscope. Presented as the Hill Lecturer at Penn State University. March 2012.

Brashears, M.M. 2012. International Opportunities in Food Safety. Presented as the Hill Lecturer at Penn State University. March 2012.

Chaney, W.E., Y.T. Liao, M.J. Wolf, A.R. Parks, J. Martin, A.J. Garmyn, A. Echeverry, L.D. Thompson, M.F. Miller, J.C. Brooks, G.H. Loneragan, and M.M. Brashears. 2012. *Escherichia coli* O157:H7 and non-O157 STEC Survival and Reduction on Intact Beef Subprimal and Non-intact Beef Trim and Steaks by Intervention and Cooking Processes. Beef Safety Summit, March 6-9, Tampa, FL.

Gragg, S.E., G.H. Loneragan, K.K. Nightingale, J.R. Elder, H. Ruiz, M.F. Miller, A. Echeverry, and M.M. Brashears. 2012. Prevalence and Characterization of *Salmonella* Recovered from Lymph Nodes and Feces of Cattle at Harvest in Mexican Slaughter Facilities. Beef Safety Summit, March 6-9, Tampa, FL.

Brashears, M.M. 2012. Issues Surrounding Control and Testing of STECs. Presented at the Annual meeting of the Institute of Food Technologists. Las Vegas, NV. June 2012.

Brashears, M.M. 2012. HACCP Validation Strategies. Presented at the annual Reciprocal Meats Conference. Fargo, SD. June 2012.

Brashears, M.M. and James Dickson. Guidelines for Validation Small and Very Small Processors. Reciprocal Meat Conference in South Dakota, June 2012.

Brashears, M.M. The Non-O157 Shiga Toxin *E. Coli*. Strains: Methodologies and Interventions. Institute of Food Technologists (IFT) Annual Meeting, NV, June 2012.

Brashears, M.M. Spicing up *Salmonella* Diversity: Reflections from International Studies in Mexico and Honduras. International Association for Food Protection (IAFP) Annual Meeting in RI, July 2012.

Brashears, M.M. 2012. Adventures in Latin America: Finding *Salmonella*. Presented at the Annual Meeting of the International Association for Food Protection. August, 2012.

Brashears, M.M. 2010. Invitation by USDA-NIFSI. Pathogen Baseline Prevalence in Mexico. Presented at the Annual Meeting for IAFP. Anaheim, CA.

Brashears, M.M. 2010. Invitation by the FAS. Collaborative Relationships and International Research Success. Presented to the Foreign Ag Service. Washington, DC.

Brashears, M.M. Food Safety Research Summit for NCBA in Dallas, TX in March 2008.

Brashears, M.M. Antimicrobial Administration and Emergence of Resistance. 2007 Beef Industry Safety Summit, Dallas, TX.

Brashears, M.M. 2007. Texas Tech University Food Safety Research Update. National Cattleman's Beef Association Food Safety Summit.

Brashears, M.M. 2007. Elite Dairymen Conference - Impact of Modifying Gastrointestinal Microbiology on Herd Health and Production.

Brashears, M.M. 2006. Antimicrobial Drug Resistance, *Salmonella*, and Research Needs. Joint Beef Safety Committee, Cattle Industry Annual Convention & Trade Show, Denver, CO.

Brashears, M.M. 2006. *Salmonella*, Drug Resistance, and Serotypes in Cattle Populations. Beef Industry Food Safety Summit, Jacksonville, FL.

Brashears, M.M. 2006. Reduction of VTEC Carriage in Cattle. 6<sup>th</sup> International Symposium on Shiga Toxin (Verocytotoxin) - Producing *Escherichia coli* Infections, Melbourne, Australia.

Brashears, M.M. February 2005. Epidemiology of Food-Safety Pathogens Carried by Beef Cattle, Food Safety: from the Surface Up- A National Food Safety Conference, Myrtle Beach, SC.

Brashears, M.M. International Center for Food Industry Excellence. USDA Non-Competitive Research Awards Program. August 2005.

Brashears, M.M. Overview of Reduction of *E. coli* O157 in Beef Feedlot Cattle using Direct-Fed Microbials. National Cattleman's Beef Association Food Safety Summit. Orlando, FL. April, 2005.

Brashears, M.M. Impact of Pre-Harvest Interventions on the Safety of Beef Feedlot Cattle. Northeastern Cattleman's Meeting in May, 2005. Seattle, WA.

Brashears, M.M. Pre-Harvest Food Safety Interventions. National S-295 Food Safety Meeting, "Food Safety from the Surface Up" in Myrtle Beach, SC. February 2005.

Brashears, M.M. Challenges with the Implementation of Pre-Harvest Food Safety Interventions. Southwest Reciprocal Meats Conference. Canyon, TX. Sep18, 2004.

Brashears, M.M. National Cattleman's Beef Association, Annual Meeting. Impact of Direct-Fed Microbials on the Prevalence of *E. coli* O157 in Beef Feedlot Cattle. Nashville, TN. Jan 30, 2003.

Brashears, M.M. National Cattleman's Beef Association, *E. coli* O157:H7 Summit. Impact of Direct-Fed Microbials on the Prevalence of *E. coli* O157 in Beef Feedlot Cattle. San Antonio, TX. Jan 7, 2003.

Brashears, M.M. State of Nebraska Second Annual Governor's Conference on Food Safety. Prevalence of *E. coli* O157:H7 in Cattle and Pre-harvest Control Strategies. Lincoln, NE. April 7-8, 2003.

Brashears, M.M. National Cattleman's Beef Association. Pre-harvest Intervention Technologies. *E. coli* Summit Task Force Meeting. Denver, CO. October 3-4, 2002.

Brashears, M.M. Prevalence and Control of Food-borne Pathogens in the Pre-Harvest Environment. Presented as a Part of the Excel, Food Safety and Technology V Conference, 2002. (Multiple North American Locations).

Brashears, M.M., Pre-harvest Interventions for Beef Feedlot Cattle. Pre-Harvest Pathogen Control Meeting. Oklahoma State University, Stillwater, OK. May, 2002.

Brashears, M.M. 2002. The Food Safety System: Past Accomplishments and Future Efforts to Improve Food-borne Outbreak Investigations. Annual Meeting of the International Association for Food Protection. San Diego, CA. July 1-3.

Brashears, M.M. 2002. Competitive Exclusion of *E. coli* O157:H7 in Beef Feedlot Cattle. Annual Meeting of the International Association for Food Protection. San Diego, CA. July 1-3.

Brashears, M.M. Competitive exclusion of food-borne pathogens in alfalfa sprouts. International Sprout Association's Annual Meeting, July, 2001. Nashville, TN.

Brashears, M.M. *Lactobacillus*. ASDA Discover Conference on Animal Probiotics, Nashville, IN. Sept. 2000

Brashears, M.M. and A. Amezcua. 2000. Competitive Inhibition of *Listeria monocytogenes* in Ready to Eat Pork Products. NPPC Pork Safety and Quality Summit. July, 2000. Des Moines, IA.

Brashears, M.M. HACCP: Applications and Challenges. Midwest Poultry Federation Annual Meeting. March 1999. St. Paul, MN

Brashears, M.M. Managing a Recall. Midwest Poultry Federation Annual Meeting. March 2002. St. Paul, MN.

Brashears, M.M. *Listeria* control in Ready to Eat Environments. Midwest Poultry Federation Annual Meeting. March 2002. St. Paul, MN.

#### State

Brashears, M.M. Going Commercial: How Ideas and Inventions Become Economic Realities. 7<sup>th</sup> Annual John Huffaker Agricultural Law Course. May 2013.

Brashears, M.M. Pathogens in the Food Chain. Nebraska Retail Grocer's Association, Meat Case Workshop. Oct. 1999.

Brashears, M.M. HACCP Implementation and Challenges. Nebraska Section of the American Society of Agricultural Engineers. October, 1999.

Brashears, M.M. Acidified Foods. Better Process Control School. Sept., 1997 and 1998. University of Nebraska, Lincoln, NE.

Brashears, M.M. Cooperative Extension's Emphasis on Food Safety. NAMFES Annual Meeting. April 1998. Lincoln, NE.

Brashears, M.M. Food Container Handling. Better Process Control School. Sept. 1997 and 1998. University of Nebraska, Lincoln, NE.

Brashears, M.M. GMP's , SOP's and HACCP. Urban Pest Management Conf. Jan. 1998. University of Nebraska, Lincoln, NE.

Brashears, M.M. The *E. coli* O157:H7 Situation. Urban Pest Management Conf. Jan 1998. University of Nebraska, Lincoln, NE.

Brashears, M.M. The University's Involvement in the Fight Against *E. coli* O157:H7. Governor's Ag Conference. March 1998. Kearney, NE.

Brashears, M.M. On-Farm HACCP for Poultry Producers. Nebraska Poultry Industries Annual Meeting. March 1999. Columbus, NE.

Brashears, M.M. Pathogens in the Food Chain. Beef Feedlot Roundtable. March, 1998. Grand Island, NE.

Brashears, M.M. Safe Use and Storage of Sanitizers. Urban Pest Management Conf. Jan. 1999. University of Nebraska, Lincoln, NE.

Brashears, M.M. *Salmonella typhimurium* DT 104. Urban Pest Management Conf. Jan. 1999. University of Nebraska, Lincoln, NE.

## **University**

Brashears, M.M. Preservative Systems Used in Foods. Ingredient Functionality Workshop. May 1998. University of Nebraska, Lincoln, NE.

Brashears, M.M. Sampling Beef Carcasses for Generic *E. coli*. Beef 706 Workshops. 1998 and 1999. University of Nebraska, Lincoln, NE.

Brashears, M.M. Sampling Pork Carcasses for Generic *E. coli*. Pork 101 Workshops. 1998 and 1999. University of Nebraska, Lincoln, NE.

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## **COMMERCIALIZATION**

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### **Bovamine Defend**

Chief Scientist in the development of a commercialized product for pre-harvest reduction of pathogens in beef cattle. This is the first and only intervention implemented in the beef cattle industry. Is it recommended by the three major beef packers (Tyson, Cargill and ConAgra) for use in all feedyards and is the only pre-harvest intervention endorsed by the USDA-FSIS, American Meat Institute and the National Cattleman's Beef Association.

Royalties from this product are generated annually with a minimum of \$50,000 annually.

### **Lactiguard**

Chief Scientist in the development of LactiGuard, a lactobacillus-based commercially available product for reduction of pathogens in meat and poultry products. Data were used to gain FDA approval and the product will soon be commercially available.

Royalties are generated annually to Texas Tech with a minimum of \$50,000 annually.

### **MicroZap**

Led a team of scientists in bringing technology from Italy to the US and obtaining multiple patents around the world (see below).

Developed an initial LLC with our scientists which ultimately developed into MicroZap. We were awarded a \$1.5 million Emerging Technology Grant from the State of Texas.

The company has grown with major investors and is nearing major commercialization.

Currently a major stockholder and serve of the Board of Directors for the company.

Big 12 Rising Star Award for Innovation in Research and Technology Transfer, 2006

**Patents**

Patents Granted

1. Stull, W.D., Jr., A.A. Neuber, D.E. Sharbutt, M.T. Brashears, M.M. Brashears, C. Alvarado, J. C. Brooks. Microwave Disinfection and Sterilization. US. Priority Information Number US 225606 [20090715]. **MicroZap: A method and apparatus comprising microwave radiation pulses to reduce a microorganism population in an object.** 2016.
2. Don Stull, Andreas Alfred Neuber, David E. Sharbutt, Michel Todd Brashears, Mindy Brashears, Christine Alvarado, Chance Brooks. **Microwave disinfection and sterilization.** Publication number US 9,125,958 B2. Application Number US 14/174,937. Publication Date 8 Sep 2015.
3. Mindy M. Brashears, Guy H. Loneragan, Kendra Nightingale, J. Chance Brooks. **Lactic Acid and Other Probiotic Bacteria to Reduce Pathogens In Lymph Nodes And Other Lymphatic Tissues Of Livestock Animals.** Publication Number: US2015-0,182,565. Publication date: July 2, 2015.
4. Douglas R. Ware, Mindy M. Brashears. **Compositions and methods for reducing the pathogen content of meat or meat products.** Publication number: US8,980,611 B2. Application number: US 13/951,140. Publication date: March 17, 2015.
5. Christine Alvarado, J. Chance Brooks, Mindy M. Brashears, Todd Brashears, Gianfranco Coccoli, Pierluigi Sapelli, Mario Piazza, Stefania Franzoni, Federico Felappi, and Nicola Tolettini. **Method and System for Preserving Food.** Australian Patent Number 2008293458. Awarded July 31, 2014.
6. Mindy M Brashears, Kendra Nightingale, Guy Longeragan, and Quingli Zhang. **Quantification and Molecular Detection of Lactic Acid Bacteria in a Sample.** Application # 2014-0,199,697-A1. Published July 17, 2014.
7. Christine Alvarado, J Chance Brooks, Mindy M. Brashears, Todd Brashears, Gianfranco Coccoli, Pierluigi Sapelli, Mario Piazza, Stafania Franzoni, Federico Felappi, and Nicola Tolettini. **Method for Preserving Food.** Australian application number 2008293458. Awarded April 17, 2014.
8. Willis Don Stull, Jr., Andreas Alfred Neuber, Michel Todd Brashears, Mindy Malynn Brashears, Christine Alvarado, J Chance Brooks, and David E. Sharbutt. **Microwave Disinfection and Sterilization.** US Patent Number 8,679,401 B2. Date of Issue March 25, 2014.
9. Christine Alvarado, J Chance Brooks and Mindy M Brashears. **Method and System for Preserving Food.** Japanese Patent number 5391199. Date of Issue October 18, 2013.
10. Douglas R. Ware and Mindy M. Brashears. **Compositions and methods for reducing the pathogen content of meat or meat products.** US Patent Number 8,496,925 B2. Date of Issue July 30, 2013.

11. Ware, Douglas and Mindy Brashears. **Inhibition of Pathogenic Growth on Plant Materials Using Lactic Acid Producing Microorganisms.** Application #20120201795. US Patent filed April 29, 2012. 13,318,264.
12. J Chance Brooks, Mindy M. Brashears, and Gary L. Nace. **Laboratory Method and Experimental Specimen for Validating the Efficacy of Antimicrobial Agents on Bovine Carcasses.** Provisional Application No. 61/402,263. Filed on August 26, 2011 as United States Application Serial No. 13,219,503.
13. Don Stull, J Chance Brooks, Mindy M Brashears, Michel Todd Brashears, Christine Alvarado, and David Sharbutt. **Microwave Disinfection and Sterilization.** Publication No. US-2011-0,014,331-A1. Date of Issue January 20, 2011. Application # 100114331 PATENT: 9,125,958.
14. Mindy Brashears and Divya Jaroni, 2003. **Lactic acid bacteria cultures that inhibit food-borne pathogens.** US Patent Number 7,323,166, Date of Issue January 29, 2008.
15. Douglas R. Ware and Mindy M. Brashears. **Compositions and methods for reducing the pathogen content of meat and meat products.** US Patent Number 7,291,326, Date of Issue November 6, 2007.
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1. Method and Composition for Reducing Pathogens in Rendered Food Products Using Lactic Acid Bacteria
2. Molecular Discrimination of Regulated and Non-Regulated Salmonella Serotypes
3. Quantification and Molecular Detection of Lactic Acid Bacteria in a Sample
4. Method and Composition for Reducing Pathogens in Pet Food Using Lactic Acid Bacteria
5. Serotype Discrimination Biomarkers to Distinguish Infantis from Heidelberg and Newport from Hadar
6. Method and System for Preserving Food. Patent application submitted to the Republic of China.

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## Journal Articles In Review

1. Chaves, B.D., **M.M. Brashears**, and K.K. Nightingale. Applications and Safety Considerations of *Lactobacillus salivarius* as a Probiotic in Animal and Human Health. [Submitted with corrections]
2. D. Ayala, K.K. Nightingale, and **M.M. Brashears**. 2016. Molecular Characterization of *Salmonella* from Beef Carcasses and Fecal samples from a Slaughter Facility in Mexico. *Foodborne Pathog Dis* (In Review)
3. A. J. Thompson, M. A. Calle, A. R. Pond, W. M. Kreikemeier, R. A. McDonald, E. G. Johnson, M. D. Edmonds, G. H. Loneragan, **M. M. Brashears**, and B. J. Johnson. Effect of direct-fed microbial supplementation on *Escherichia coli* fecal shedding, live performance, and carcass characteristics in feedlot steers.

4. Chaves, B.D., S. Pokharel, M.F. Miller, A. Echeverry, J.L. Vipham, and **M.M. Brashears**. Effect of Fat Content on the Microbiological Profiles of Beef Trimmings. *Food Prot Trends* (In Review)
5. Bueso, M.E., T.G. O'Quinn, A.J. Garmyn, J.C. Brooks, **M.M. Brashears**, and M. F. Miller. Consumer and trained panel evaluation of beef strip steaks of varying marbling and enhancement levels cooked to three degrees of doneness. *Meat Sci* (In Review)
6. Chaney, W.E., G.H. Loneragan, R. McCarthy, B.J. Johnson, J.C. Brooks, and **M.M. Brashears**. Inclusion of Corn-Based Distillers' Grain in the Diets of Cattle Housed in Commercial Feedlots and its Effect on the Burden of *Escherichia coli* O157 in Cattle Feces. *J Anim Sci* (In Review)
7. Chaves, B.D., A. Echeverry, and **M.M. Brashears**. Systematic Review of the Microbiological Safety Status of Foods at Retail in Costa Rica. *Food Prot Trends* (In Review)
8. Chaves, B.D., M.T. Brashears, and **M.M. Brashears**. HACCP knowledge retention of individuals participating in sequential Introductory and Advanced HACCP training courses in Costa Rica. *J Food Sci* (In Review)
9. Chaves, B.D., S. Pokharel, M.F. Miller, and **M.M. Brashears**. Lactic Acid Effectively Reduces the Concentration of Microbial Indicators on Beef Subprimals during Fabrication. *J Food Prot* (In Review)
10. Chaves, B.D., S. Pokharel, M.F. Miller, and **M.M. Brashears**. Validation of a Lactic Acid Spray as an Effective Antimicrobial Intervention for Beef Variety Meats. *Food Prot Trends* (In Review)
11. Chaves, B.D., S.N. Ward-Motl, A. Echeverry, M.F. Miller, and **M.M. Brashears**. Survey of *Salmonella* in retail beef in Mexico and evaluation of potential antimicrobial interventions at the point of sell. *Food Safety* (In Review)
12. Maradiaga, M., H. Den-Bakker, K.K. Nightingale, and **M.M. Brashears**. Whole-Genome Sequencing Characterization of antimicrobial resistant *Salmonella enterica* isolates associated with cattle at harvest in Mexico.
13. Ramirez-Hernandez, A., B. Inestroza, M.X. Sanchez, A. Echeverry, A. Parks, and **M.M. Brashears**. Thermal Resistance of *Salmonella* in High-Fat Rendering Products. *J Food Sci* (In Review)

## Abstracts Presented

### 2016

Arvelo-Yagua, I., A. Calle, **M.M. Brashears**, K. Hanlon, M. Sanchez-Plata, and A. English. 2016. Efficacy of *Salmonella* Detection in Ground Beef and Cilantro by Five Commercially Available Tests. *J Food Prot* 79 (Suppl): 119.

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## 2015

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Calle, M.A., Ramirez-Hernandez, A. Brashears, M. Poster presentation. Antibiotic Resistant *Escherichia coli* O157 isolated from cattle. ISVEE 14 Yucatan 2015, Merida, MX, Nov 2015.

Casas, D., Campos. D., Orange, A., Guillen. L., Zhang, Q., Brashears, MM. 2015. Mechanisms of inhibition of *Listeria monocytogenes* by lactic acid bacteria. Institute of Food Technologist (undergraduate research finalist) Chicago, IL.

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Fuentes, J.I., K.E. Hanlon, K.A. Ortega, M.M. Miller, M.M. Brashears. Microbial prevalence found in sheep fecal samples from the Lubbock, Texas area [abstract]. Presented at Texas Tech University Undergraduate Research Competition. March 31, 2015. Lubbock, TX

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Siroj Pokharel, Markus F Miller, Amy R Parks, Mindy M Brashears. 2015. The Prevalence of *Escherichia coli* O157:H7 and *Salmonella* spp. on Beef Heads and Variety Meat. AMSA Reciprocal Meats Conference (RMC) Proceedings: June 14-17, 2015; Lincoln, NE.

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Banegas, C., K. Fermin, D. Stull, B. Chaves and M.M. Brashears. 2014. Reduction of *Salmonella* and *Escherichia coli* O157:H7 in Drinking Water using Microwave Technology. Presented at the Texas Tech University Undergraduate Research Competition. April 15-17, Lubbock, TX.

Fermin, K., D. Stull, A. Neuber, J.C. Brooks and M.M. Brashears. Reduction of *Listeria monocytogenes* on Beef Franks utilizing Targeted Directional Microwave Technology.

103<sup>rd</sup> Annual Meeting of the International Association for Food Protection, August 3 to 6, Indianapolis, IN.

Gray, A., G.H. Loneragan, A. Parks and M.M. Brashears. 2014. Attachment and Biofilm formation of Shiga Toxin Producing *Escherichia coli* (STEC) to Stainless Steel at Varying Temperatures. Presented at the Texas Tech University Undergraduate Research Competition. April 15-17, Lubbock, TX.

Perez, O., K. Fermin, L. Garcia and M.M. Brashears. 2014. Reduction of *Listeria Monocytogenes* on Cured and Uncured Hotdogs using 5% Lactic Acid. Presented at the Texas Tech University Undergraduate Research Competition. April 15-17, Lubbock, TX.

Trojan, S.J., M.T. Brashears, A. Echeverry, and M.M. Brashears. 2014. Identification of barriers of Bahamian agriculture production: An assessment of stakeholder needs. Presented at the Joint Annual Meeting (JAM). July 20-24, Kansas City, MO.

## 2013

Ayala, D., M.M. Brashears, K. Nightingale, M. Miller, C. Narvaez Bravo, J.C. Brooks, and A. Brandt. 2013. Pulsed-field Gel Electrophoresis Subtyping of *Salmonella* Isolates from Carcasses, Lymph Nodes, and Fecal Samples from Cattle at Slaughter Facilities in Mexico. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Brashears, M.T., S. Morales, S. Trojan, S., A. Echeverry, and M.M. Brashears. 2013. An Evaluation of the Needs of Stakeholders within the Bahamian Food Production – Consumption Continuum. American Association for Agricultural Education National Research Conference, April 27-May 1, Miami, FL.

Brenes, B., S. Discua, M.T. Brashears, and M.M. Brashears. 2013. Texas Tech University – Zamorano University Internship Program: International Agricultural Cooperation through Education and Research. Proceedings of the American Association for Agricultural Education National Research Conference, April 27-May 1, Miami, FL.

Brizuela-Obando, S., M.T. Brashears, and M.M. Brashears. 2013. Faculty exchange between Texas Tech University (TTU) and Centre de Formation Fritz Lafontant (CFFL), Haiti. American Association for Agricultural Education National Research Conference, April 27-May 1, Miami, FL.

Calle, A., M.M. Brashears, and G. Loneragan. 2013. Prediction of *Escherichia coli* O157 Load Using Immunomagnetic Separation and Regression Analysis. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Calle, A., S. Pokharel, N. Pond, and M.M. Brashears. 2013. Capture efficiency of immunomagnetic separation (IMS) as applied to *E. coli* STEC O-groups. American Society for Microbiology, 113<sup>th</sup> Annual Meeting, May 18-21, 2013, Denver, CO.

Calle, A., M. Sellers, G. Loneragan, and M.M. Brashears. 2013. Simultaneous Immunomagnetic Separation (IMS) of Five *Escherichia coli* STEC O-groups with Subsequent Differentiation Using Modified Rainbow Agar. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

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Chaves, B., L. Garcia, A. Echeverry, M. Miller, and M.M. Brashears. 2013. Prevalence of *Salmonella enterica*, *Escherichia coli* O157:H7 and Non-O157 Shiga Toxin-producing *Escherichia coli* in Beef Cuts Sold at Retail Markets in Costa Rica. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Chaves, B., L. Garcia, A. Echeverry, M. Miller, M.M. Brashears. 2013. Evaluation of Process Control to Prevent Contamination of Beef with Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) in U.S. Export Abattoirs in Costa Rica. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Chaves, B.D., M. Maradiaga, M.A. Calle, L. Thompson, S.P. Jackson, T. Jackson, M.F. Miller, L.G. Garcia, A. Echeverry, H. Ruiz, and M.M. Brashears. 2013. Evaluation of process control to prevent contamination of beef with non-0157 shiga toxin-producing *Escherichia Coli* (STEC) in U.S. export abattoirs in Honduras and Nicaragua. 66<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 23-26, 2013, Auburn, AL.

Guillen, L., J. Vipham, A. Pond, N. Pond, G. Loneragan, and M.M. Brashears. 2013. Mitigation of *Salmonella* in Cattle Lymph Nodes in a Commercial Feedlot Setting Using NP51, a *Lactobacillus*-based Pre-harvest Intervention. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Hawkins, A., M.T. Brashears, and M.M. Brashears. 2013. Organizational Climate and Food Safety Training Change Employee Behaviors and Pathogen Loads in Non-TIF Beef Packing Plants in Mexico. American Association for Agricultural Education National Research Conference, April 27-May 1, Miami, FL.

Jaroni, D., K. Sullivan, M.M. Brashears, T. Brashears, G. Loneragan, C. Richards, A. Pond, and M. Miller. 2013. Identification of Contamination Sources and Prevalence of *Escherichia coli* O157:H7 and *Salmonella* on Small-scale Cow/Calf Operations in Oklahoma, Texas and Louisiana. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Jasti, N., W.E. Chaney, A. Echeverry, G. Loneragan, K. Nightingale, and M.M. Brashears. 2013. Efficacy of Lactic Acid, Hot Water, and Acidified Sodium Chlorite for the Reduction of Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) Utilizing a Hot Carcass Model and *Escherichia coli* O157:H7 as an Indicator. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Jasti, N., W.E. Chaney, A. Echeverry, G. Loneragan, K. Nightingale, and M.M. Brashears. 2013. Efficacy of Lactic Acid, Hot Water, and Acidified Sodium Chlorite for the Reduction of Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) Utilizing Chilled Beef Subprimals and *Escherichia coli* O157:H7 as an Indicator. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Khodammahammaid, A., Q. Zhang, D. Campos, and M.M. Brashears. 2013. Antimicrobial Activity of Lactiguard® against Foodborne Pathogens in Laboratory Media. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Liao, Y. T., G. H. Loneragan, J. C. Brooks, A. Echeverry, M. F. Miller, and M. M. Brashears. 2013. Establishment of non-0157 shiga toxin-producing *Escherichia Coli* (STEC) baseline of retail ground beef in the United States. 66<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 23-26, 2013, Auburn, AL.

Maradiaga, M., M. Miller, A. Echeverry, L. Garcia, S. Gragg, H. Ruiz, A. Calle, and M.M. Brashears. 2013. Prevalence of *Salmonella* on Beef Hides and Carcasses at an Abattoir in Merida, Mexico. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Maragiada, M., M. Miller, L. Thompson, A. Echeverry, L. Garcia, M.M. Brashears, S. Gragg, A. Calle, A. Pond, and S. Ward. 2013. Baseline of *Salmonella* Prevalence in Retail Beef and Produce from Honduras and Mexico. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Newsome, S., M.T. Brashears, and M.M. Brashears. 2013. A Case Study Analysis of Organizational Climate and Food Safety in a Federally Inspected Beef Packing Plant in Veracruz, Mexico. American Association for Agricultural Education National Research Conference, April 27-May 1, Miami, FL.

Ortega, G., M. Miller, A. Calle, K. Ortega, A. Echeverry, and M. Brashears. 2013. Prevalence of *Escherichia coli* Non-0157:H7 STEC in Beef in Mexico. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

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Parks, A., K. Nightingale, J.C. Brooks, M. San Francisco, L. Thompson, G. Loneragan, and M.M. Brashears. 2013. Attachment of Shiga Toxigenic *Escherichia coli* (STEC) on Stainless Steel Hex Nuts in Minimal and Full Nutrient Broth. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

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Pond, A., M. Brashears, G. Loneragan, L. Guillen, J. J. Vipham, and N. Pond. 2013. Reduction of *Escherichia Coli* 0157 and non0157 groups in the feces of commercial feedlot cattle using a high-dose of NP51, A *Lactobacillus*-based pre-harvest intervention. 66<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June June 23-26, 2013, Auburn, AL.

Pond, N., A. Pond, L. Guillen, J. Vipham, B. Johnson, G. Loneragan, and M.M. Brashears. 2013. Evaluation of NP51 Feed Additive in a Research Feedlot Facility and Its Effectiveness in Reducing Shiga Toxin-producing *Escherichia coli* (STEC) in Cattle Feces. 100<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 28-31, Charlotte, NC.

Ruiz, H., M.F. Miller, S. Gragg, G.H. Loneragan, L.G. Garcia, and M.M. Brashears. 2013. *Salmonella* prevalence in beef lymph nodes and feces from cattle harvested at five Mexican abattoirs. 66<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June June 23-26, 2013, Auburn, AL.

Ruiz, H., M.F. Miller, L.D. Thompson, J.C. Brooks, G.H. Loneragan, A. Echeverry, G.O. Cervera, and M.M. Brashears. 2013. Prevalence of *Salmonella* in Lymph Nodes of Swine Harvested in Mexico. Presented at the 2013 Beef Industry Safety Summit (BIFSCO). March 13-15, Dallas, TX.

Ruiz, H., M. F. Miller, L. D. Thompson, L. G. Garcia, C. Brooks, G. H. Loneragan, A. Echeverry, M. M. Brashears, and G. O. Cervera. 2013. *Salmonella* presence in lymph nodes and tonsils of swine harvested in Cancun and Merida, Mexico. 66<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 23-26, 2013, Auburn, AL.

Salgado, E., M. Maradiaga, J.K. Torres, A. Calle, and M.M. Brashears. 2013. Reduction of *Salmonella enteria* and *Listeria Monocytogenes* in cantaloupes and mangoes using low-cost chemical antimicrobial interventions. Institute of Food Technologists (IFT) Annual Meeting and Food Expo. July 13-16, Chicago, IL.

Sunkara, V. K., J. C. Brooks, W. E. Chaney, J. N. Martin, and M. M. Brashears. 2013. Reduction of pathogenic bacteria in ground beef using a *Lactobacillus*-based biological intervention. 66<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 23-26, 2013, Auburn, AL.

Vipham, J. L., G. H. Loneragan, A. Pond, L. M. Guillen and M. M. Brashears. 2013. Reduction of *Salmonella* in cattle subiliac lymph nodes in a research feedlot setting using a *Lactobacillus Acidophilus* (NP51) based pre-harvest intervention. 66<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 23-26, 2013, Auburn, AL.

Zhang, Q., K. Nightingale, A. Khodammohammadi, and M.M. Brashears. 2013. Inactivation of *Listeria Monocytogenes* by lactic acid bacteria as influenced by culture media and temperature. Institute of Food Technologists (IFT) Annual Meeting and Food Expo. July 13-16, Chicago, IL.

## 2012

Calle, A., M.M Brashears, and G.H Loneragan. 2012. Effect of Bovamine® on Prevalence and Concentration of *Escherichia coli* O157:H7 and Non-O157 Shiga Toxin-producing *Escherichia coli* (STEC) on Beef Feedlot Cattle. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Calle, M.A., G.H. Loneragan, and M.M. Brashears. 2012. Effect of Bovamine® on prevalence and concentration of *Escherichia coli* O157:H7 and non-O157 Shiga-toxin producing *Escherichia coli* (STEC) on beef feedlot cattle. Detection through the real time PCR BAX® system from DuPont Qualicon. Beef Safety Summit, March 6-9, Tampa, FL.

Campos, D., Q. Zhang, and M.M. Brashears. 2012. Inhibition Activity of Lactic Acid Bacteria against *Salmonella*, *Escherichia coli* O157:H7 and non-O157 STECs in Ground Beef. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Chaney, W.E., Y.T. Liao, M.J. Wolf, A.R. Parks, J. Martin, A.J. Garmyn, A. Echeverry, L.D. Thompson, M.F. Miller, J.C. Brooks, G.H. Loneragan, and M.M. Brashears. 2012. *Escherichia coli* O157:H7 and non-O157 STEC Survival and Reduction on Intact Beef Subprimal and Non-intact Beef Trim and Steaks by Intervention and Cooking Processes. Beef Safety Summit, March 6-9, Tampa, FL.

Chaney, W.E., V.K. Sunkara, M.F. Miller, and M.M. Brashears. 2012. Reduction of “Big 6” Non-O157 STEC on Chilled Beef Sub-primals Using 5% Lactic Acid. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Gragg, S.E., G.H. Loneragan, K.K. Nightingale, J.R. Elder, H. Ruiz, M.F. Miller, A. Echeverry, and M.M. Brashears. 2012. Prevalence and Characterization of *Salmonella* Recovered from Lymph Nodes and Feces of Cattle at Harvest in Mexican Slaughter Facilities. Beef Safety Summit, March 6-9, Tampa, FL.

Gragg, S., G. Loneragan, K. Nightingale, J. Elder, H. Ruiz, M. Miller, A. Echeverry, and M. Brashears. 2012. Prevalence and Characterization of *Salmonella* Recovered from Lymph Nodes and Feces of Cattle at Harvest in Mexican Slaughter Facilities. 65<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 15-20, Fargo, ND.

Gragg, S., K. Nightingale, J. Elder, H. Ruiz, G.H. Loneragan, M.F. Miller, A. Echeverry, and M.M. Brashears. 2012. Characterization of *Salmonella* Isolated from the Lymph Nodes and Feces of Cattle Presented for Harvest at a Slaughter Facility in Mexico. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Hartzog-Hawkins, A. Echeverry, M.T. Brashears, L. D. Thompson, M.F. Miller, J. Zamora, L. G. Garcia, C. Narvaez, L. Lemons, M. Shaw, A. Pond, H. Ruiz, M. Maradiaga, A. Calle and M.M. Brashears. Organizational Climate and Food Safety Training Change Employee Behaviors and Pathogen Loads in Non-inspected Beef Packing Plants in Mexico. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Ison, J.J., G.H. Loneragan, G.E. Erickson, R.A. Moxley, D.R. Smith, and M.M. Brashears. 2012. A Meta-analysis of the association of *Lactobacillus acidophilus* NP51 administration with *Escherichia coli* O157 in feces and on hides of feedlot cattle. Annual Meeting of the Conference of Research Workers in Animal Diseases (CRWAD), December 2-4, Chicago, IL.

Ison, S.A., G.H. Loneragan, M.M. Brashears, B. Norby, and H.M. Scott. 2012. Effect of Flavophospholipol and Environment on Antimicrobial Resistance in Beef Cattle. Annual Meeting of the Conference of Research Workers in Animal Diseases (CRWAD), December 2-4, Chicago, IL.

Ison, S.A., G.H. Loneragan, B.C. Meiwes, S.J. Trojan, J.J. Ison, M.M. Brashears, H.M. Scott, P. McDermott, S. Ayers, M. Torrence. Antimicrobial susceptibility of *Escherichia coli* and *Salmonella* isolated from feedlot cattle: a NARMS pilot study. Annual Meeting of the Conference of Research Workers in Animal Diseases (CRWAD), December 2-4, Chicago, IL.

Lemons, L., M.T. Brashears, A. Hartzog, A. Echeverry, L. Thompson, M.F. Miller, L. Garcia, and M.M. Brashears. 2012. A Comparison of Food Safety Climate at Municipal and Private Beef Slaughter Plants in Mexico. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Liao, Y.T., J.C. Brooks, J.N. Martin, A. Echeverry, G.H. Loneragan, and M.M. Brashears. 2012. Spray Intervention Treatments and Cooking to reduce *Escherichia coli* O157:H7 and Non-O157 STECs on the Surface of Beef Subprimals, and within Needle-Tenderized Steaks. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Loneragan, G.H., D.U. Thomson, B.A. Butler, M.M. Brashears, R.M. McCarthy, T.M. Arthur, J.M. Bosilevac, N. Kalchayanand, J.W. Schmidt, T.L. Wheeler, A.L. Siemens, D.L. Schaefer, C.B. Rose,

J.B. Ruby, T.C. Bryant, R.J. Algino, B.W. Wileman, D.T. Burkhardt, L.M. Slinden, and D.A. Emery. 2012. Vaccination to control *E. coli* O157 in cattle housed in commercial production systems. International symposium on Verotoxigenic *E. coli*, May, Amsterdam.

McCarthy, R.M., G.H. Loneragan, H. Donely, L.I. Wright, D.U. Thomson, J.B. Morgan, K.K. Nightingale, M.M. Brashears. 2012. Commercial Evaluation of an SRP-containing *Escherichia coli* Bacterial Extract Vaccine. Annual Meeting of the Conference of Research Workers in Animal Diseases (CRWAD), December 2-4, Chicago, IL.

Maradiaga, M., M.F. Miller, L. Thompson, A. Calle, A. Pond, S. Ward, A. Echeverry, L. Garcia, and M.M. Brashears. 2012. Baseline of *Salmonella* prevalence in retail beef and produce in Honduras and Mexico. Annual Meeting of the Institute of Food Technologists (IFT), June 26-28, Las Vegas, NV.

Narvaez-Bravo, C., M.F. Miller, A. Rodas-González, A. Calle, M.T. Brashears, A. Echeverry, M. Aslam, and M.M. Brashears. 2012. Virulence characterization of *Escherichia coli* O157:H7 isolated from fecal samples and beef carcasses in Mexico. 58<sup>th</sup> International Congress of Meat Science and Technology, August 12-17, Montréal, Canada.

Ortega; G., A. Calle, A. Echeverry, and M.M. Brashears. 2012. Detection of *Salmonella* and *Escherichia coli* O157:H7 (stx and eae genes) at different concentrations of viable and nonviable cells through the BAX® System from Dupont Qualicon. Annual Meeting of the Institute of Food Technologists (IFT), June 26-28, Las Vegas, NV.

Pond, A., G.H. Loneragan, M.T. Brashears, D. Jaroni, M.F. Miller, L. Lemons, and M.M. Brashears. 2012. Prevalence of *Salmonella* and *Escherichia coli* O157:H7 in Cow/Calf Operations in Texas, New Mexico and Oklahoma during the Summer and Fall Months. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Ruiz, H., M. Miller, G. Loneragan, S. Gragg, M. Brashears, and L. Garcia. 2012. *Salmonella* Prevalence in Lymph Nodes and Feces of Cattle Presented for Harvest in Mexico. 65<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 15-20, Fargo, ND.

Tapp III, W.N., S.E. Gragg, J.C. Brooks, M.M. Brashears, and M.F. Milller. 2012. Reduction of *Escherichia coli* O157:H7 following application of various sanitizing treatments to harvesting knives. 65<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 15-20, Fargo, ND.

Ward, S., M.F. Miller, A. Echeverry, L. Garcia, G.H. Loneragan, A. Pond, T. Jackson, L. Thompson, S. Jackson, J.C. Brooks, R. G. Ramirez Porras, G. Cervera, and M.M. Brashears. 2012. Reduction of *Salmonella* Using Lactic Acid and Potassium Lactate on Non-federally Inspected Whole Muscle Beef Steaks Purchased in Meat Markets of Mexico. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Webb, H.E., G.H. Loneragan, S.E. Gragg, M.M. Brashears, K.K. Nightingale, T.M. Arthur, J.M. Bosilevac, N. Kalchayanand, J.W. Schmidt, R. Wang, and D.M. Brichta-Harhay. 2012. *Salmonella enterica* in lymph nodes of cull and fed cattle at harvest. Annual Meeting of the Conference of Research Workers in Animal Diseases (CRWAD), December 2-4, Chicago, IL.



Willems, A., J.C. Brooks, A. Parks, L. Jackson, and M.M. Brashears. 2012. Heat Tolerance of Shiga-toxigenic *Escherichia coli* (STEC) in Laboratory Media. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

Wolf, M., M.F. Miller, A. Parks, G.H. Loneragan, A. Garmyn, L. Thompson, and M.M. Brashears. 2012. Validation of Lactic Acid Dip and Spray in Reducing *Escherichia coli* O157:H7, *Salmonella*, and Non-O157 Shiga-toxigenic *Escherichia coli* (STEC) on Beef Trim and Ground Beef. 99<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 22-25, Providence, RI.

## 2011

Brown, T.R., M.M. Brashears, C. Chancey, J.N. Martin, A. Echeverry, S.P. Jackson, L.D. Thompson, and J.C. Brooks. 2011. Influence of lactic acid spray applied in a cold environment and vacuum packaged storage on the presence of *Escherichia coli* O157:H7 on beef strip loins. 64<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-22, Manhattan, KS.

Chaney, W.E., G.H. Loneragan, and M.M. Brashears. 2011. Corn-Based Distiller's Grain and the Burden of *Escherichia coli* O157:H7 in Commercial Feedlot Settings and Development of a Semi-quantitative Method to Estimate Concentration of *E. coli* O157:H7. Beef Safety Summit, March 2-4, Dallas, TX.

Chaney, W.E., G.H. Loneragan, and M.M. Brashears. 2011. A Semi-Quantitative Methodology for *Escherichia coli* O157:H7 in Bovine Feces. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Chaney, W.E., G.H. Loneragan, H.M. Scott, and M.M. Brashears. 2011. Development of a semi-quantitative ranking scheme to estimate the concentration of *Escherichia coli* O157:H7 in bovine feces. 92<sup>nd</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases, December 4-6, Chicago, IL.

Chaney, W.E., G.H. Loneragan, R. McCarthy, M.F. Miller, B.J. Johnson, J.C. Brooks, and M.M. Brashears. 2011. Effects of Corn-Based Distillers Grain (DG) Inclusion into Feeding Rations on the Burden of *Escherichia coli* O157:H7 in Commercial Feedlot Settings. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Daniels, P., M. Miller, A. Laury, G. Loneragan, M. Brashears, and C. Brooks. 2011. Testing for the presence of *Salmonella* in dog treats through in plant validation, inoculation, and cooking. 64<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-22, Manhattan, KS.

Gragg, S.E., G.H. Loneragan, D.M. Brichta-Harhay, T.M. Arthur, J.M. Bosilevac, N. Kalchayanand, R. Wang, J.W. Schmidt, J.C. Brooks, S.D. Shackelford, T.L. Wheeler, T.R. Brown, and M.M. Brashears. 2011. *Salmonella* in Lymph Nodes of Cattle Presented for Harvest. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Laury A.M., K. Fermin, D. Stull, A. Neuber, J.C. Brooks, M.T. Brashears, C. Alvarado, and M.M. Brashears. 2011. Reduction of Methicillin-resistant *Staphylococcus aureus* (MRSA) on towels utilizing targeted directional microwave technology. 111<sup>th</sup> General Meeting of the American Society for Microbiology, May 21-24, New Orleans, LA.

Laury A.M., K. Fermin, D. Stull, A. Neuber, J.C. Brooks, M.T. Brashears, C. Alvarado, and M.M. Brashears. 2011. Re-distribution of Methicillin-resistant *Staphylococcus aureus* (MRSA) during the laundering of cotton towels. 111<sup>th</sup> General Meeting of the American Society for Microbiology, May 21-24, New Orleans, LA.

Laury A.M., K. Fermin, D. Stull, A. Neuber, J.C. Brooks, M.T. Brashears, C. Alvarado, and M.M. Brashears. 2011. Reduction of *Salmonella* on jalapeño peppers, peanuts, and dry dog food utilizing targeted directional microwave technology. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Liao, Y.T., A. Echeverry, A. Ulmer, R. Lacey, D. Henroid, M. Binkley, and M.M. Brashears. 2011. Evaluation of Hygienic Practices and Efficacy of an Educational Hand-washing Intervention among Restaurants in Lubbock and San Francisco. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Martin, J.N., M.M. Brashears, C. Chancey, A. Echeverry, S.P. Jackson, L.D. Thompson, and J.C. Brooks. 2010. Reduction of *E. coli* O157:H7 using lactic acid and cooking in needle tenderized beef strip steaks. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Narvaez-Bravo, C., M.F. Miller, S. Jackson, T. Jackson, A. Rodas-Gonzalez, A. Echeverry, K. Pond, and M.M. Brashears. 2011. Comparison of *Salmonella* and *E. coli* O157 prevalence on beef carcasses harvested in Mexico under two different production procedures under TIF regulations. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Narvaez-Bravo, C., M.F. Miller, T. Jackson, S. Jackson, A. Rodas-Gonzalez, K. Pond, A. Echeverry, and M.M. Brashears. 2011. Determination of risk factors associated with *Salmonella* and *E. coli* O157 prevalence on carcasses in a Mexican slaughter plant. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Pond, A., M.F. Miller, A. Echeverry, G. Loneragan, and M.M. Brashears. 2011. *Salmonella* and *E. coli* O157:H7 prevalence on beef carcasses in a non-TIF harvest plant in the Cuautla, Mexican. 64<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-22, Manhattan, KS.

Pond, A., M.F. Miller, A. Echeverry, G.H. Loneragan, M.T. Brashears, R. Ramírez Porras, G. Ordaz Cervera, and M.M. Brashears. 2011. *Salmonella* and *E. coli* O157:H7 Prevalence on Beef Carcasses in a Non-TIF Harvest Plant in the Mexican Yucatan. 98<sup>th</sup>

Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Pond, A., M.F. Miller, T. Jackson, A. Echeverry, E. Randazo, and M.M. Brashears. 2011. Validation of Lactic Acid Interventions on the Reduction of *Escherichia coli* Biotype I, Coliforms and Total Aerobic Bacteria on Chilled Beef Products Processed at a commercial US slaughter facility. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Pond, A., M.F. Miller, T. Jackson, E. Randazo, and M.M. Brashears. 2011. Validation of lactic acid and ASC Interventions on the reduction of *Escherichia coli* biotype I, coliforms and total aerobic bacteria on beef carcasses processed at a commercial U.S. slaughter facility. 64<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-22, Manhattan, KS.

Tapp, W.N. III, J.W.S. Yancey, J.K. Apple, M.J. Wolf, A.M. Laury, J.C. Brooks, M.M. Brashears, and M.F. Miller. 2011. Shelf life extension, organoleptic variation, and pathogenic reduction of noni-treated beef patties. 64<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-22, Manhattan, KS.

Vipham, J.L., M.F. Miller, G.H. Loneragan, A. Echeverry, J.C. Brooks, W.E. Chaney, and M.M. Brashears. 2010. *Salmonella*, *Campylobacter*, and Putative Non-O157 Shiga Toxin-Producing *Escherichia coli* (STEC) in Ground Beef and Whole Muscle Beef Cuts in the United States. 98<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 31-August 3, Milwaukee, WI.

Vipham, J.L., M.F. Miller, G.H. Loneragan, A. Echeverry, J.C. Brooks, W.E. Chaney, and M.M. Brashears. 2011. *Salmonella*, *Campylobacter*, and putative non-O157 shiga toxin-producing *Escherichia coli* (stec) prevalence in ground beef and whole muscle beef cuts at retail in the United States. 64<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-22, Manhattan, KS.

Ward, S.N., A. Echeverry, M.M. Brashears, A. Pond, L. Garcia, T. Jackson, L. G. Thompson, K. Pond, G. Loneragan, J. C. Brooks, and M.F. Miller. 2011. Effects of lactic acid on *Salmonella* levels on non-federally-inspected whole muscle beef steaks purchased in meat markets of Mexico. 64<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-22, Manhattan, KS.

## 2010

Binkley, M., S. Nanivadekar, L. Thompson, and M.M. Brashears. 2010. Microbial testing of the consumer environment in foodservice establishments: a pilot study. 97<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 1-4, Anaheim, CA.

Brown, A.L., E. Karunasena, J.C. Brooks, A. Echeverry, and M.M. Brashears. 2010. Inhibition of *Escherichia coli* O157:H7 and *Clostridium sporogenes* in spinach packaged in modified atmospheres after treatment with chlorine and lactic acid. 97<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 1-4, Anaheim, CA.

Chaney, W.E., A. Echeverry, H. Ruiz, M.F. Miller, M.M. Brashears. 2010. Efficacy of Brine Chilling on the Reduction of *Escherichia coli* O157:H7 and *Salmonella* on Hot Beef Carcass Surfaces. 97<sup>th</sup>

Annual Meeting of the International Association for Food Protection (IAFP), August 1-4, Anaheim, CA.

Echeverry, A., T. Jackson, A. Laury, S. Gragg, A. Brown, W.E. Chaney, L. Yen-Te, M.F. Miller, and M.M. Brashears. 2010. Validation of a hot water wash as a Carcass Intervention in a Beef Processing Plant. 63<sup>rd</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-23, Lubbock, TX.

Echeverry, A., T. Jackson, A. Laury, S. Gragg, A. Brown, W.E. Chaney, L. Yen-Te, M.F. Miller, and M.M. Brashears. 2010. Validation of Lactic Acid as an Antimicrobial Intervention in a Beef Processing Plant. 63<sup>rd</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-23, Lubbock, TX.

Echeverry, A., A. Pond, C. Narváez-Bravo, M.F. Miller, T. Jackson, A. Laury, K. Pond, G.H. Loneragan, M.T. Brashears, N. Huerta-Leidenz y M.M. Brashears. 2010. Prevalence of Salmonella in Beef and Pork in Mexican Retail Markets: Its Relationship with Observations taken at Different Slaughter and supplier Plants and its Impact on Final Product Safety [*In Spanish: Prevalencia de Salmonella en Carne de Res y Cerdo en Mercados Minoristas Mexicanos: Su Relacion con Observaciones en Diferentes Plantas de Sacrificio Suplidoras e Impacto en la Inocuidad del Producto Final*]. 10th National Congress of Food Science and Technology ACTA, XVI Latin American Seminar of Food Science and Technology ALACCTA and 2nd Latin American symposium on food safety (IAFP), September 21-24, Bogota, Colombia.

Henroid, D., M. Binkley, R. Lacey, A. Ulmer, and M.M. Brashears. 2010. Handwashing practices in California and Texas Quick Service and Full Service Restaurants. 97<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 1-4, Anaheim, CA.

Laury, A, A. Echeverry, M. Alvarado, S. Gragg, A. Brown, C. Narvaez, P. Sunkara, and M.M. Brashears. 2010. Electrostatically sprayed lactic acid bacteria as a pre-harvest intervention strategy for reduction of *Escherichia coli* O157:H7 on spinach plant. 97<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 1-4, Anaheim, CA.

Narváez-Bravo, C., A. Echeverry, A. Rodas-González, M.F. Miller, T. Jackson, K. Pond, A. Laury, W.E. Chaney, M.T. Brashears, G.H. Loneragan, y M.M. Brashears. 2010. Seasonal prevalence of Salmonella and *E. coli* O157: H7 in beef cattle and its impact on different stages of Beef in a slaughterhouse in Mexico [*In Spanish: Prevalencia Estacional De Salmonella Y E. coli O157:H7 En Ganado De Engorde Y Su Impacto En Diferentes Etapas Del Procesamiento De Carne De Res En Una Planta De Faenado En México*]. 10th National Congress of Food Science and Technology ACTA, XVI Latin American Seminar of Food Science and Technology ALACCTA and 2nd Latin American symposium on food safety (IAFP), September 21-24, Bogota, Colombia.

Narvaez-Bravo, C., M.F. Miller, A. Echeverry, K. Pond, and M.M. Brashears. 2010. *Salmonella* and *E. coli* O157:H7 prevalence in cattle and on carcasses in a vertically integrated feedlot and harvest plant in Mexico. 97<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 1-4, Anaheim, CA.

Pond, A. R., C. Gardner, W. E. Chaney, A. Echeverry, A. Laury, and M.M. Brashears. 2010. Validation of beefside on the reduction of *Salmonella* and *Escherichia coli* O157:H7 on a beef carcasses calf model. 63<sup>rd</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-23, Lubbock, TX.

Pond, A., M.F. Miller, A. Echeverry, G.H. Loneragan, M. Salud Rubio, A. Chavez, and M.M. Brashears. 2010. *Salmonella* and Pathogenic *E. coli* Prevalence and Generic *E. coli* Quantitative Baselines in Raw Pork and Beef at Retail Outlets in Mexico. 97<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 1-4, Anaheim, CA.

Sunkara, P., A. Echeverry, G.H. Loneragan, M.F. Miller, A. Pond, E. Karunasena y M.M. Brashears. 2010. Antibiotic Resistance Profiles in *Salmonella* serotypes isolated from samples of Beef and Pork obtained from Retail Establishments in Mexico [*In Spanish: Perfiles De Resistencia A Los Antibióticos En Serotipos De Salmonella Aislados De Muestras De Carne De Res Y De Cerdo En Establecimientos De Venta Al Público En México*]. 10th National Congress of Food Science and Technology ACTA, XVI Latin American Seminar of Food Science and Technology ALACCTA and 2nd Latin American symposium on food safety (IAFP), September 21-24, Bogota, Colombia.

Sunkara, P., G.H. Loneragan, M.F. Miller, A. Echeverry, E. Karunasena, and M.M. Brashears. 2010. Antibiotic resistance profiles of cattle associated *Salmonella* serotypes in Mexico. 63<sup>rd</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 19-23, Lubbock, TX.

Sunkara, P., G.H. Loneragan, M.F. Miller, A. Echeverry, E. Karunasena, and M.M. Brashears. 2010. Antibiotic Resistance Profiles of Cattle Associated *Salmonella* Serotypes in United States and Mexico. 97<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 1-4, Anaheim, CA.

## 2009

Chaney, W.E., E. Karunasena, A. Echeverry and M.M. Brashears. 2009. Influence of Modified Atmosphere Packaging (MAP) on *Escherichia coli* O157:H7 Growth and Virulence: Effects on Shiga Toxin and Biofilm Production. 96<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 12-15, Grapevine, TX.

Chaney, W.E., E. Karunasena, M.M. Brashears. 2009. Influence of Food-Associated Modified Atmosphere (MAP) and Overwrap Packaging on *Escherichia coli* O157:H7 Static Biofilm Formation in Tryptic Soy Broth (TSB) Suspension. 109<sup>th</sup> Annual Meeting of American Society for Microbiology, May17-21, Philadelphia, PA.

Dow, A.E., C. Alvarado, P. Takhar, M.M. Brashears. 2009. Control of *Listeria monocytogenes* on contact and non- contact surfaces by electrostatic spraying of quaternary. 96<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 12-15, Grapevine, TX.

Gragg, S.E. and M.M. Brashears. 2009. Reduction Of *Escherichia coli* O157:H7 in Fresh Spinach Using Chlorine And Lactic Acid Bacteria As A Multi-Hurdle Intervention. 96<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 12-15, Grapevine, TX.

Hughes, M.K., B.M. Hughes, G.H. Loneragan, and M.M. Brashears. 2009. Selecting Susceptible and Resistant *Salmonella* Serovars for Cocktail Preparation: A Case Study in Mitigating Sample Bias Using Statistical Methods. 96<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 12-15, Grapevine, TX.

Karunasena, E., E.P. Kiernan, P. Kurkure, R. Lackey, and M.M. Brashears. 2009. Contributors to Host Health by Probiotics in an *In vivo* Model for *Mycobacterium avium* subspecies *paratuberculosis* (MAP) Associated Enteric Disease: Effects on Host Gastro-Intestinal

Physiology, Immunity, and Flora. 109<sup>th</sup> Annual Meeting of American Society for Microbiology, May 17-21, Philadelphia, PA.

Laury, A.M., M.V. Alvarado, J.C. Brooks, A. Echeverry, and M.M. Brashears. 2009. Inhibition of Growth of *Escherichia coli* O157:H7 and *Salmonella* in ground beef using modified atmosphere packaging systems. 96<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 12-15, Grapevine, TX.

Laury, A.M. and M.M. Brashears. 2009. Survival of Lactic Acid Bacteria In Various Water Sources And Sandy Loam Soil. 96<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 12-15, Grapevine, TX.

Pond, A., A. Echeverry, and M.M. Brashears. 2009. Validation of dosage and shelf-life properties of beef products treated with bovine meat cultures. 62<sup>nd</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 21-24, Rogers, AR.

Yanamala, S., G.H. Loneragan, M.F. Miller and M.M. Brashears. 2009. Microbial Contamination of spinach placed in close proximity of cattle feed yard operations. 96<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 12-15, Grapevine, TX.

## 2008

Alvarado, M., A. Laury, C.Z. Alvarado, M.M. Brashears. 2008. Evaluation of Spraying a Lactic Acid Based Antimicrobial Product on the Reduction of *Salmonella* on Broiler Chickens. 95<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 3-6, Columbus, OH.

Chaney, W.E., E. Karunasena, S.E. Gragg, M.M. Brashears. 2008. Reduction of *E. coli* O157:H7 DSC in Fresh Commercial Spinach by Lactic Acid Bacteria. 95<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 3-6, Columbus, OH.

Collins, J., J.C. Brooks, A. Echeverry, M.M. Brashears, M.F. Miller. 2008. Sensory Properties of Needle Tenderized and Injected Beef after Treatment with Intervention Strategies to Control Food-Borne Pathogens. 61<sup>st</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 22-25, Gainesville, FL.

Dow, A., C.Z. Alvarado, M.M. Brashears. 2008. Reduction of *Salmonella* in Ground Turkey Breasts with a *Lactobacillus*-Based Intervention. 95<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 3-6, Columbus, OH.

Echeverry, A., J.C. Brooks, M.M. Brashears. 2008. Validation of Intervention Strategies to Control *E. coli* O157:H7 and *Typhimurium* DT 104 in Injected Beef at the Retail Level. 95<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 3-6, Columbus, OH.

Echeverry, A., J.C. Brooks, M.F. Miller, J. Collins, M.M. Brashears. 2008. Validation of Intervention Strategies to control *E. coli* O157:H7 and *Salmonella Typhimurium* DT 104 in Beef Subjected to Mechanical Tenderization in a Simulated Packer Setting. 61<sup>st</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 22-25, Gainesville, FL.

Echeverry, A., J.C. Brooks, M.F. Miller, J. Collins, M.M. Brashears. 2008. Validation of Intervention Strategies to Control *E. coli* 0157:H7 and *Salmonella* Typhimurium DT 104 in Beef Subjected to Blade Tenderization at the Purveyor. 61<sup>st</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 22-25, Gainesville, FL.

Gasser, S., W.E. Chaney, M. Lyte, K.W. McMahon, M. Galyean, Enusha Karunasena, and M.M. Brashears. 2008. Consequences of Stress and Diet on the Endocrine and Immune Systems of Cattle and Their Effects on *Escherichia coli* 0157:H7 & *Salmonella* species and Seasonal Shedding. ASM General Meeting, June 1-5, Boston, MA.

Gragg, S.E., J.C. Brooks, A. Laury, and M.M. Brashears. 2008. Effect of Lactic Acid Producing Bacteria DSC on the Sensory Characteristics of Fresh Spinach. 95<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 3-6, Columbus, OH.

Gragg, S.E., A. Laury, M.F. Miller, and M.M. Brashears. 2008. Environmental Contamination of Spinach in Close Proximity to Cattle Operations. 95<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 3-6, Columbus, OH.

Karunasena, E., A.M. Zischkau, E.P. Kiernan, S.J. Gasser, K.W. McMahon, S.R. Takhar, and M.M. Brashears. 2008. Consequences of a Direct Fed Probiotic on Natural Gut Flora in an *in vivo* study. International Association for Food Protection (IAFP) Latin America, May 26-28, Campinas, Brazil.

Karunasena, E., E.P. Kiernan, A.M. Zischkau, A.M. Lopez, S.R. Takhar, and M.M. Brashears. 2008. In Vitro Growth and Virulence of *Escherichia coli* 0157:H7 in Gut, Serum, and Fecal Content of BALB/c Mice Fed Probiotics: Implications of a Diet on Host, Environment, & Pathogen. ASM 2<sup>nd</sup> Conference on Beneficial Microbes, October 12-16, San Diego, CA.

Kunze, D.J., T. Poole, R. Anderson, M.M. Brashears, T. E. Besser, J. B. Daniels, T. M. Platt, and G.H. Loneragan. 2008. Molecular characterization of non-type specific *E. coli* isolates recovered from cattle exposed to ceftiofur. 89<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases, December 7-9, Chicago, IL.

Laury, A., M. Alvarado, G. Nance, J.C. Brooks, and M.M. Brashears. 2008. Evaluation of the Reduction of *E. coli* 0157:H7 and *Salmonella* spp. By Spraying a Lactic Acid- Based Antimicrobial Product on USDA Select Beef Tips. 95<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 3-6, Columbus, OH.

Loneragan, G.H., L. R. Matthews, A. Daniels, T. Edrington, D. Nisbet, T. M. Platt, R.M. McCarthy, M. Nemechek, C. Narvaes, T. Jackson, and M.M. Brashears. 2008. *Salmonella* in Cull Dairy Cattle of the Texas high Plains. 89<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases, December 7-9, Chicago, IL.

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Scott, H.M., B. Norby, G.H. Loneragan, M.M. Brashears, and R.B. Harvey. 2008. Critical thresholds of resistance in enteric bacteria: modeling, monitoring and managing microbial ecology to protect antimicrobials of critical importance. ASM Conference on Antimicrobial Resistance in Zoonotic Bacteria and Foodborne Pathogens. June 15-18, Copenhagen, Denmark.

Webb, H.E., G.H. Loneragan, A. Daniels, R.M. McCarthy, and M.M. Brashears. 2008. Prevalence, susceptibility, and diversity of serotypes of *Salmonella enteric* recovered from dairy cattle in the Texas High Plains. 89<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases, December 7-9, Chicago, IL.

## 2007

Alvarado, M., J.C. Brooks, M.F. Miller, T. Jackson, and M.M. Brashears. 2007. Meat Packaging Technologies and the Safety of Ground Beef. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

Alvarado, C.Z. and M.M. Brashears. 2007. Reduction of Salmonella in Whole and Ground Turkey Meat at Refrigerated and Elevated Temperatures using Lactic Acid Bacteria. Joint Annual Meeting of the Poultry Science Association. July, 2007, San Antonio, TX.

Brooks, J.C., M.K. Hughes, E. Karunasena, and M.M. Brashears. 2007. Reduction of *Escherichia coli* O157:H7 in whole muscle beef cuts using lactic acid bacteria cultures. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.



Branham, L.A., T.M. Platt, G.H. Loneragan, M.J. Engler, D.U. Thomson, R.S. Singer, M.M. Brashears. 2007. Impact of In-Feed Antimicrobial Drug Use on Antimicrobial Susceptibility Patterns of Generic *Escherichia coli*. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

Brashears, M.M., M.F. Miller, J.C. Brooks, D. Harris, G.H. Loneragan, A. Echeverry, T.E. Jackson, and J.M. Mehaffey. 2007. Microbial Risk Factors Associated With Condensation in Ready-To-Eat Processing Facilities. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

Brashears, M.M., G.H. Loneragan, and M.F. Miller. 2007. Feedlot Dust as a Source of Cross-Contamination of *E. coli* O157 on Beef Feedlot Cattle Hides Prior to Shipping. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

Clay, J.C., J.C. Brooks, M.M. Brashears, and M. Lyte. 2007. Methods for *Escherichia coli* O157:H7 detection in needle tenderized red meat. 60<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), Brookings, SD.

Collins, J.A., J.C. Brooks, M.M. Brashears, and M.F. Miller. 2007. The use of lactic acid meat cultures in a commercial beef processing facility – shelf life characteristics. 60<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), Brookings, SD.

Echeverry, A., T.C. Lowrance, G.H. Loneragan, M.M. Brashears, M.S. Brown, D.J. Kunze, T.M. Platt, S.E. Ives, H.M. Scott, and B. Norby. 2007. Ceftiofur Crystalline Free Acid Administration Reduces Susceptibility of Generic *E. coli* in Cattle. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

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Flowers, S.L., D. Kang, M.M. Brashears, W.R. Henning, and C.N. Cutter. 2007. Microbiological baselines validate a multi-step antimicrobial intervention for red meat carcasses processed in very small meat establishments. 60<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), Brookings, SD.

Killinger-Mann, K.M., S.E. Dowd, J.A. Fralick, and M.M. Brashears. 2007. Changes in expression of virulence mechanisms in three related *Salmonella* Typhimurium mutants with increasing multi-drug resistance properties, as determined by microarray analysis [abstract]. American Society for Microbiology 107<sup>th</sup> General Meeting, May 21-25, 2007, Toronto, Canada.

Laury, A., G.H. Loneragan, T.M. Platt, L.A. Branham, S.E. Ives, M.J. Engler, D.U. Thomson, and M.M. Brashears. 2007. Changes in Indicator Populations due to Therapeutic Use of Injectable Antibiotics in Feedlot Cattle. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

Lemons, L., M.T. Brashears, M. Jennings, G.H. Loneragan, and M.M. Brashears. 2007. Educational Needs of United States cattle producers regarding pre-harvest food safety interventions. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

Lopez, A.M., G. Poullier, A.M. Luna, C.Z. Alvarado, L.D. Thomson, and M.M. Brashears. 2007. Carbon monoxide in MAP chicken breast fillets and drums as a food safety intervention to reduce pathogen loads and extend shelf-life. Joint Annual Meeting of the Poultry Science Association. July, 2007. San Antonio, TX.

Platt, T. M., G.H. Loneragan, L.A. Branham, M.J. Engler, D.U. Thomson, R.S. Singer, and M.M. Brashears. 2007. In-feed antimicrobial drug administration and antimicrobial susceptibility of non-type-specific *Escherichia coli*. 88<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases, December 2-4, Chicago, IL.

Rekow, C.L., M.F. Miller, J.C. Brooks, and M.M. Brashears. 2007. Carcass mapping study that investigates microbial contamination throughout the slaughter and fabrication processes. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

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Stephens, T.P., G.H. Loneragan, E. Karunasena, and M.M. Brashears. 2007. Reduction of *Escherichia coli* O157 and *Salmonella* in Feces and on Hides of Feedlot Cattle using Various Doses of a Direct-Fed Microbial. 94<sup>th</sup> Annual Meeting of the International Association for Food Protection (IAFP), July 8-11, Orlando, FL.

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Tittor, A.W., M.G. Tittor, M.M. Brashears, J.C. Brooks, and M.F. Miller. 2007. Reduction of *Escherichia coli* O157:H7 and *Salmonella* using dry chilling in small processing plant environments. 60<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), Brookings, SD.

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## 2006

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Chichester, L.M., G.H. Loneragan, D.J. Kunze, T.M. Platt, L.L. Proffit, and M.M. Brashears. 2006. Oral administration of neomycin to feedlot cattle and susceptibility of *E. coli* and *Enterococcus*. The 11th International Symposium for Veterinary Epidemiology and Economics, August 6-11, Cairns, Australia.

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Killinger-Mann, K.M., S.E. Dowd, M.M. Brashears, and J.R. Blanton Jr. 2006. Microarray analysis of a lactic acid stressed, multi-drug resistant mutant of *Salmonella* Typhimurium. 59<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 18-21, Urbana-Champaign, IL.

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Kunze, D.J., G.H. Loneragan, H.M. Scott, M.S. Brown, G. Schuster, and M.M. Brashears. 2006. Impact of injectable antimicrobial drugs on the susceptibility of enteric bacteria in feedlot

cattle. The 11th International Symposium for Veterinary Epidemiology and Economics, August 6-11, Cairns, Australia.

Lakins, D., E. Echeverry, C. Alvarado, M.M. Brashears, and L. Thompson. 2006. Destruction of *Salmonella enteritidis* and quality of table shell eggs using microwave commercial sterilization PSA 85:100 (Suppl 1.) (Abstr)

Loneragan, G.H., D.R. Ware, M.M. Brashears. 2006. A meta-analysis on the impact of dietary supplementation with *Lactobacillus acidophilus* strain NP51 on *E. coli* O157 carriage by feedlot cattle. The 11th International Symposium for Veterinary Epidemiology and Economics, August 6-11, Cairns, Australia.

Loneragan, G.H. and M.M. Brashears. 2006. Reduction of VTEC Carriage in Cattle. 6th International Symposium on Shiga Toxin (Verocytotoxin) - Producing *Escherichia coli* Infections. VTEC. October 29 to November 1, 2006, Melbourne, Australia.

Lowrance, T.C., G.H. Loneragan, M.M. Brashears, M.S. Brown, D.J. Kunze, T.M. Platt, S. Ives, H.M. Scott, and B. Norby. 2006. Ceftiofur Crystalline Free Acid Administration and Susceptibility of Generic *E. coli* Recovered from Feedlot Cattle. 87th Annual Meeting of the Conference of Research Workers in Animal Diseases, December 3-5, Chicago, IL.

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Platt, T.M., G.H. Loneragan, M.M. Brashears, D.U. Thomson, H.M. Scott, B. Norby, and D.J. Kunze. 2006. In-feed administration of chlortetracycline and antimicrobial susceptibility of enteric bacteria. 87th Annual Meeting of the Conference of Research Workers in Animal Diseases, December 3-5, Chicago, IL.

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Stephens, T.P., G.H. Loneragan, T.W. Thompson, and M.M. Brashears. 2006. Enumeration of *E. coli* O157 in Ground Beef, Beef Briskets, and Beef Shanks Using Most Probable Numbers (MPN) and Immunomagnetic (IMS) Techniques. The 11th International Symposium for Veterinary Epidemiology and Economics, August 6-11, Cairns, Australia.

Thompson, W., T. Stephens, G.H. Loneragan, and M.M. Brashears. 2006. Comparison of detection of *E. coli* O157 using immunomagnetic separation and ELISA assays in fecal, hide and beef samples. The 11th International Symposium for Veterinary Epidemiology and Economics, August 6-11, Cairns, Australia.

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Branham, L.A., M.M. Brashears, G.H. Loneragan, and A. Echeverry. 2005. Fecal Pat Sampling and Homogenation for Detection of *Escherichia coli* O157. 92<sup>nd</sup> Annual Meeting of the International Association for Food Protection (IAFP), Baltimore, MD.

Branham, L., K. Mann, G.H. Loneragan, and M.M. Brashears. 2005. Antibiotic Resistance Patterns in *Escherichia coli* O157:H7 Isolates collected from 2001-2004. 92<sup>nd</sup> Annual Meeting of the International Association for Food Protection (IAFP), Baltimore, MD.

Chichester, L.M., G.H. Loneragan, M.M. Brashears, T. Stephens, D.J. Kunze, T.M. Platt, L.L. Proffit, and D. Ware. 2005. Prevalence and enumeration of *E. coli* O157 in beef steers receiving various strains of direct-fed microbials. 92<sup>nd</sup> Annual Meeting of the International Association for Food Protection (IAFP), Baltimore, MD.

Fluckey, W.M., G.H. Loneragan, and M.M. Brashears. 2005. Antibiotic resistance and cross contamination of *Enterococcus* isolated from live cattle, hides and carcasses. 92<sup>nd</sup> Annual Meeting of the International Association for Food Protection (IAFP), Baltimore, MD.

Harris, D.D., M.M. Brashears, J.C. Brooks, and M.F. Miller. 2005. Application of Antimicrobial treatments in a commercial simulation to reduce *E. coli* O157:H7 and salmonella spp. In beef trim and ground beef. International Congress for Meat Science and Technology. August, Baltimore, MD.

Hoyle, A.R., L.D. Thompson, J C. Brooks, and M.M. Brashears. 2005. Microbial Quality of Ground Beef with Added Lactic Acid Bacteria at Abusive and Refrigerated Temperatures Packaged in Modified Atmosphere and Traditional Packaging. International Congress for Meat Science and Technology. August. Baltimore, MD.

Killinger Mann, K. and M.M. Brashears. 2005. Multi-drug resistance in nalidixic acid resistant mutants of *Salmonella* Typhimurium. 92<sup>nd</sup> Annual Meeting of the International Association for Food Protection (IAFP), Baltimore, MD.

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Dahl, K, V. Sutton, C.P. Lyford, K.R. Pond, and M.M. Brashears. 2004. Potential legal ramifications from the development of pre-harvest food safety interventions in the beef industry. 91<sup>st</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 8-11, Phoenix, AZ.

Echeverry, A., G.H. Loneragan, M.M. Brashears, and B.W. Wagner. 2004. Non-uniform distribution of *E. coli* O157:H7 in feces and underestimation of carriage by feedlot cattle. 91<sup>st</sup> Annual Meeting of the International Association for Food Protection (IAFP), August 8-11, Phoenix, AZ.

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Harris, K.A., M.M. Brashears, M.F. Miller, and K. Pond. 2004. Validation of antimicrobial treatments to reduce *Escherichia coli* O157:H7 and *Salmonella* in beef trim and ground beef. 57<sup>th</sup> Reciprocal Meat Conference (RMC) of the American Meat Science Association (AMSA), June 20-23, 2004, Lexington, KY.

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