

AMIFoundation News

A quarterly update on research, education and information

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Experts Defend MAP With CO Packaging AMIF Views Published In *USA Today*, *Dakotan Free Press*

“MAP with CO packaging of fresh beef is a major technological achievement in providing extended shelf life and reduced microbiological hazards to fresh beef,” Dr. Michael Doyle, director of the Center for Food Safety at the University of Georgia said in September, during a keynote address to the Canadian Meat Council symposium on Advances in Antimicrobial Interventions for Quality Control of Meat and Poultry Products held in Toronto, Canada.

The symposium was attended by more than 110 microbiologists, industry, academic and government scientists from across Canada and the U.S. Dr. Doyle's keynote address was entitled, “Advances in Antimicrobial Interventions: A Key to Meat Quality and Safety.”

During his talk covering a variety of

cutting-edge food safety technologies, Doyle described a study that he and his colleague, Dr. Li Ma, conducted at the University of Georgia, which demonstrated that low-oxygen modified

“*Sometimes the best way to kill an honest discussion in its tracks is to use the rhetorical equivalent of tossing a Molotov cocktail into a dinner party. This has been the very tactic used to vilify a new and exciting technological breakthrough known as Low-Ox packaging.*”

- Dr. Randy Huffman, AMIF
Vice President of Scientific Affairs

atmosphere packaging with minute levels of carbon monoxide in the gas mix in addition to nitrogen and carbon dioxide “retarded the growth of *E. coli* O157:H7 in ground beef under temperature abusive storage conditions.”

He said his study also found that this packaging system extended shelf life based on appearance — color, odor and texture of ground beef — even under abusive temperature conditions.

He also cited information from the peer-reviewed scientific literature that agrees with the University of Georgia results. He noted 2006 research conducted at Texas Tech University reached similar conclusions. (see page 6)

Levulinate Validated For Use As Antilisterial Agent

New research has validated the use of levulinate as an antilisterial additive for ready-to-eat meat products, researchers at Utah State University concluded in a recent AMIF Foundation-funded study. The results were presented at the Institute of Food Technologists (IFT) annual meeting in July.

Levulinic acid (4-oxopentanoic acid) is a commercially available 5-carbon organic acid that has GRAS (Generally Recognized as Safe) status for direct addition to food as a flavoring agent or adjunct (21 CFR, 172.515).

Previous research had established that addition of 1.4 percent sodium levulinate in fresh sausage inhibited growth of aerobic bacteria to the same degree as 2.7 percent sodium lactate (*Vasavada et al. 2003. J. Muscle Foods 14:119-129*).

The goal of the study was to evaluate the extent to which sodium levulinate inhibits growth of *Listeria monocytogenes* in ready-to-eat meat products as compared to the current industry standards of sodium lactate and sodium lactate/diacetate mixture and to establish the impact of sodium levulinate on the sensory (see page 6)

Science Soundbites: A Review Of Recent Research

Listeria innocua* May Operate As Surrogate for *Listeria monocytogenes

In a study funded in part by the American Meat Institute Foundation, researchers at the University of Georgia have concluded, based on similar survival and settling rates, that *Listeria innocua* can be used as a surrogate for *Listeria monocytogenes* in aerosol studies.

In their efforts to determine the suitability of the surrogate, researchers examined four strains of *L. innocua* and five strains of *L. monocytogenes* under two airflow conditions. Results showed that *L. monocytogenes* and *L. innocua* survived equally well on chicken and turkey breast meats and TSA settling plates.

Journal of Food Protection, Vol.70, No.8, 2007, Pages 1857-1865

Chlorate Treatment, Topical Disinfectant and Younger Weaning Age May Reduce *Salmonella* Shedding on Pig Farms

Researchers at the University of Wisconsin-Madison have determined that chlorate treatment, topical disinfection and younger weaning age may all be useful tools for reducing *Salmonella* shedding on farms that practice segregated weaning and where sow-to-piglet transfer of *Salmonella* is an important source of infection in nursery pigs.

To test the effectiveness of the chlorate, an oral dose was administered daily for five days following weaning, and this treatment was evaluated in

combination with two weaning ages and a topical disinfectant.

The chlorate treatment reduced *Salmonella* prevalence and estimated *Salmonella* concentration in feces, cecal contents and ileocolic lymph nodes. Younger weaning age (10 days of age) was associated with reduced shedding in fecal samples at five days postweaning and in cecal samples at 14 days postweaning. Disinfectant treatment reduced shedding in fecal samples at 14 days postweaning.

Journal of Food Protection, Vol.70 No.8, 2007, Pages 1798-1803

Monocaprylin (MC) Proven To Be An Effective Antilisterial Agent

In a study funded by the American Meat Institute Foundation, University of Connecticut researchers have determined that the use of monocaprylin (MC) alone and in combination with acetic acid (AA) as an antimicrobial dip for killing *L. monocytogenes* on pork-beef frankfurters has potential for postprocessing treatment of frankfurters.

During the study, skinless frankfurters were inoculated with a three-strain mixture of *L. monocytogenes*, immersed for 35 seconds in dipping solutions containing MC and AA, and vacuum packaged for 77 days.

Results indicate that dipping frankfurters with MC reduces *L. monocytogenes*, and inclusion of AA further enhanced MC antilisterial activity, without any organoleptic effect.

Journal of Food Protection, Vol.70, No.7, 2007, Pages 1594-1599

Research Finds Correlation Between Imported Cattle From UK And Instances of Variant Creutzfeldt-Jakob Disease

Imports from the United Kingdom may have been an important source of exposure in at least some of the countries in which variant Creutzfeldt-Jakob Disease (vCJD) has been detected, according to the findings from a recent study.

In studying the occurrence of vCJD outside the United Kingdom in relation to the incidence of bovine spongiform encephalopathy (BSE) and to the level of live bovines and bovine products imported from the UK during the 1980s and the first half of the 1990s, researchers found evidence that a country's number of vCJD cases correlates with the number of live bovines imported from the UK.

The results are also consistent with an analysis of data from France, which suggested UK bovine imports were likely to have been a more important source of infection than indigenous BSE.

Emerging Infectious Diseases, Vol.13, No.8, 2007, Pages 1166-1169

Human Noroviruses Found in Swine and Cattle

A new study of human noroviruses (NoVs) suggests for the first time that human-like strains can be present in livestock.

In the study, researchers tested fecal samples obtained from pig and dairy farms, as well as retail meat samples for the NoV genome. Swine and bovine strains were detected in the swine and cattle (see page 5)

Avian Influenza Not A Food Safety Threat If Proper Handling Is Followed, Says New University of Wisconsin White Paper

The possibility of highly pathogenic avian influenza (HPAI) H5N1 virus being a threat to food safety appears to be unlikely if poultry and eggs are properly cooked and the persons involved in food preparation do not cross-contaminate vegetables, fruit or other ready-to-eat foods with infected poultry, according to a white paper prepared by the Food Research Institute and Department of Medical Microbiology, University of Wisconsin-Madison.

Funded in part by the American Meat Institute Foundation, the white paper reviews information on avian flu viruses and the extent of the ongoing worldwide outbreak, and focuses on available information on the destruction of the virus in meat products.

The white paper says that biosecurity measures and the fact that infected birds succumb rapidly to infection make it unlikely that HPAI will find its way to the marketplace. However, the paper also acknowledges the possibility that some birds may have subclinical infection cannot be completely discounted. The study points to a puzzling outbreak among turkeys in England in January of this year, which is thought to have been caused by

importation of turkey meat from subclinically infected birds from Hungary.

In this unlikely event, standard conditions for cooking eggs and poultry were shown to destroy this virus, with the apparent exception of production of dried eggs. High pressure was also proven to inactivate the virus, but irradiation is not likely to be effective at approved doses. The study found that light may also be effective in inactivating the viruses under some conditions and the viruses are also neutralized under acidic conditions. Precautions to inactivate the virus on cutting boards and equipment and in chilling tanks were also effective in preventing cross-contamination from infected birds.

Different strains of these viruses were found to vary somewhat, but any cooking method that destroys *Salmonella* or *Campylobacter* should also inactivate avian influenza, the report says.

The white paper is available on the American Meat Institute Foundation's Web site, www.amif.org. ■

Ractopamine Levels Well Below Recognized Tolerance Levels, Finds Chinese Study In *Journal Of Agriculture and Food Chemistry*

Residue concentrations of ractopamine were lower than tolerance values established by Food and Drug Administration (FDA) and maximum residue limits (MRL) values listed by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) in swine that were fed the supplement right up until the day of slaughter, according to a study from the China Agricultural University in Beijing.

The study, which appears in the *Journal of Agriculture and Food Chemistry*, found that there are no withdrawal days necessary for the safe use of ractopamine as a feed additive.

Ractopamine is a FDA-approved swine feed ingredient that increases the amount of quality pork and improves production efficiency, lowering production costs, which results in benefits to consumers. The food safety of ractopamine has been determined by regulatory authorities, including the FDA 1999, using their

stringent safety criteria for approval of feed ingredients.

Ractopamine was evaluated for human food safety using a series of toxicology tests to determine the "no effect" level and define the amount acceptable in the diet of a person every day. The feed additive has been registered for use in 24 countries, including the United States, Canada, Mexico and Brazil, and 7 countries in the Asia/Pacific, including Australia, Indonesia, Philippines and South Korea.

Additionally, a "draft standard" has been recommended to the 17th Session of the Codex Committee on Residues of Veterinary Drugs for Foods in August 2007. The "draft standard" is based upon the 62nd Joint Expert Committee on Food Additives (JECFA) recommended Acceptable Daily Intake (ADI) and Maximum Residue Limits (MRLs) for Ractopamine Hydrochloride in swine and cattle. ■

AMIF Request For Proposals Closed

The AMI Foundation's 2007 Request For Proposals closed on August 8. The pre-proposals are currently under review by the AMIF Research Advisory Committee. Funding recommendations will be made to the AMI Board of Directors at their January 2008 meeting. For additional information about the process, visit amif.org or contact Susan Backus as sbackus@meatami.com

AMIF Experts Travel To CDC To Discuss *E. coli* Incidence

Meeting Intended To Gather Data and Assess Pathogen Control Efforts

AMI Foundation experts traveled to the Centers for Disease Control and Prevention (CDC) in Atlanta, Ga., to discuss the recent trends in both the prevalence of *E. coli* O157:H7 in beef and trends in recalls and outbreaks associated with beef during the first half of 2007. The meeting was intended to both gather data and underscore the fact that the industry was taking prudent steps to assess activities and programs related to pathogen control.

Positive results for *E. coli* O157:H7 in samples of ground beef collected by the Food Safety and Inspection Service (FSIS) during routine monitoring dropped from about 0.8 percent between 2000-2002. Those rates continued to decrease during 2004-2006 to a level under 0.17 percent. Results to date from 2007 have shown a small increase back up to 0.19 percent. Recalls associated with beef were more numerous in 2007 than they were in all of 2006 (14 recalls versus 8, as of Oct. 6, 2007).

Eight of the 14 recalls recorded so far in 2007 have been initiated because of foodborne illness investigations, compared to no recalls in 2006 because of beef-related foodborne illness. The trend in both prevalence of the pathogen and apparent association between beef and *E. coli* O157:H7-related illnesses prompted AMIF to request a meeting with the CDC to share information.

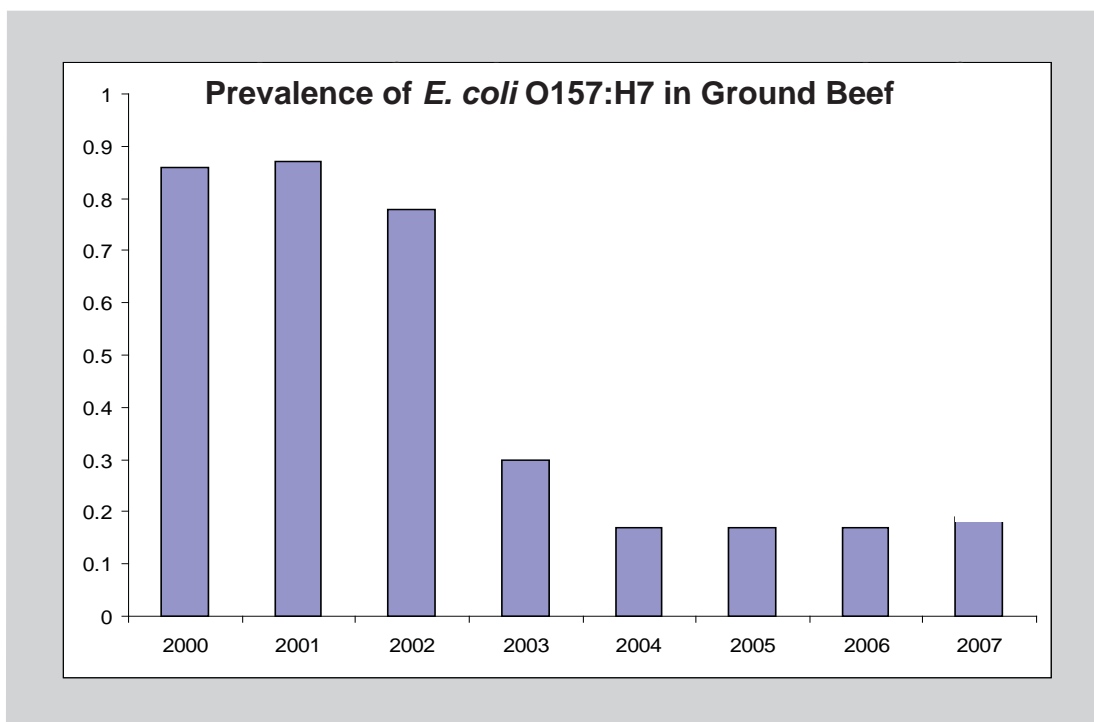
CDC staff attending the meeting included leaders at the CDC, members of the National Surveillance Team, FoodNet Team, Outbreak Team and the association director of the Food Safety Initiative. CDC staff reported that the declines seen through FoodNet monitoring in 2003 and 2004 have not been sustained

in 2005 and 2006. Unfortunately, the case rate in 2006 is not significantly different from the 1996-1998 baseline (decline average = 14 percent, confidence interval: increase of 5 percent to decrease of 30 percent). Verbally, they indicated that preliminary data through the first part of 2007 is about on par with the results from 2006.

AMI Foundation reported to CDC that the slight increase in *E. coli* O157:H7 positive samples (0.19 percent through September 2007 vs. 0.17 percent in 2005 and 2006) was being observed in routine FSIS samples so far in 2007 versus previous years. The Foundation noted that that prior to about Memorial Day 2007, the trend was actually lower than previous years. AMIF urged caution in interpretation of these results, as over the course of the remainder of the 2007 the prevalence may change. Nonetheless, the Foundation expressed that the industry was taking prudent steps to assess activities and programs related to pathogen control programs.

Based on current data, neither CDC nor AMI staff can predict with any certainty what, if anything, may be occurring to cause upward pressure on the *E. coli* O157:H7 trends in illness and prevalence in ground beef.

AMIF and CDC agreed to keep lines of communication open and seek to identify opportunities for sharing of information that would serve to protect public health. Both sides also agreed the meeting was productive and generally would be worthwhile to conduct on a regular basis. ■



AMI Unveils New Consumer Outreach Initiative, ‘Meat Matters’ Series Of Brochures On Important Meat Industry Topics Available Online

AMI this month announced a new consumer outreach initiative called “Meat Matters,” a series of brochures that can be downloaded and printed from a new, centralized Web site MeatMattersInfo.org.

The Meat Matters series of brochures is designed to be easily printed for use by consumers, retailers and foodservice operators. The seven brochures in the new “Meat Matters” series include:

▶ **Case Ready Meats:** This brochure details the growing trend in packaging meat at the plant under federal inspection for direct placement into the retail case without further cutting or handling. The brochure details the benefits of each system and explains the impact that meat packing may have on meat freshness and meat color.

▶ **Product Dating:** An invaluable guide for consumers, the brochure explains the different types of dates that appear on packages including use-by dates, sell-by dates and best if used by dates. The brochure also features a chart detailing storage times for fresh and processed products.

▶ **Safe Handling of Meat and Poultry Products:** This brochure details recommended handling and cooking practices to ensure meat and poultry safety all the way to the table.

▶ **Meat and Poultry Nutrition:** The value of animal protein in the diet is detailed in this brochure. Consumers can find a quick reference guide to the amount of protein they need and how to determine with the eyes how many ounces they are consuming.

▶ **Livestock Cloning:** The emerging science of livestock cloning is explained in understandable terms in this brochure, which details the level of scientific review the technology has undergone.

▶ **Animal Welfare in the Meat Industry:** This brochure explains the regulatory requirements for ensuring that livestock handled by meat plants are treated humanely. The brochure also details voluntary efforts by the meat industry to go above and beyond regulatory requirements.

▶ **Consumer’s Guide to Enhanced Meats:** This brochure details how the meat industry is using enhancing solutions in lean meat cuts to maintain juiciness, prevent overcooking and ensure good eating experiences.



AMI sought comments from government, industry and academia in the development of the brochures. The Institute plans to add to the series over the next year with brochures addressing other timely and emerging topics.

“The fact is – meat does matter. We are proud of the products we produce and decided it was time to speak more directly to the consumer. We cannot rely on the media alone to communicate important messages about food safety, nutrition, animal welfare and meat quality,” said AMI President J. Patrick Boyle. “We believe that these brochures and their companion download site can be a valuable resource to our customers.”

AMI will be providing these materials to reporters nationwide to ensure that they have consumer-friendly information they can use in preparing stories. The Institute will alert consumers to their availability through syndicated media services.

The “Meat Matters” series is available, and downloadable, at www.meatmattersinfo.org. Electronic files are available to retailers and foodservice operators who wish to customize by adding their logos.

Visitors can subscribe to receive alerts when new brochures are released or to be notified when brochures are updated. ■

Science Soundbites: A Review of Recent Research

(from page 2)

samples, respectively. Researchers also identified human NoV sequences in both types of animal samples.

These data suggest a potential mechanism for zoonotic transmission of NoV to humans through meat, dairy, or farm samples from infected pigs and cows. These

findings also highlight the possibility that a recombinant swine/human or bovine/human NoV could emerge with altered tropism or virulence characteristics. ■

Emerging Infectious Diseases, Vol.13, No.8, 2007, Pages 1184-1188

Experts Defend Benefits, Safety of MAP with CO Packaging

(from page 1)

“MAP CO-treated meat is a revolutionary technology providing greater protection against foodborne pathogens and extended shelf life to fresh beef,” Doyle said.

Doyle also described the food safety and quality benefits of case ready packaging generally including its production under controlled processing conditions.

Doyle has served on the National Advisory Committee on Microbiological Criteria for Foods and is considered one of the world’s leading experts in food microbiology and food safety. He joins numerous other scientists in supporting the quality and safety benefits of this packaging system.

Dr. Randy Huffman, vice president of scientific affairs for the American Meat Institute Foundation, has also come to the defense of Low-OX (LOX) packaging, and his views were recently published in *USA Today*.

In his counterpoint to a *USA Today* editorial, Huffman said that “Meat products packaged with modified air are proven products that have food safety and quality benefits, documented by independent scientists and reviewed and accepted by the Agriculture Department (USDA) and the Food and Drug Administration (FDA)” and argued that banning or labeling this technology is unnecessary and unfair.

“The packages keep meat fresher longer, prevent spoilage and the ‘off’ flavors oxygen causes, and restrict harmful bacteria from growing if present,” Huffman said. In the op-ed, he explained that air includes gases like nitrogen, carbon dioxide, carbon monoxide and oxygen, the enemy of freshness.

He noted that consumers have purchased more than 300 million of these packages with no food safety issues and a record-breaking level of satisfaction, according to industry

tracking data.

His views were also recently published in a guest editorial in the *Dakotan Free Press*.

“Sometimes the best way to kill an honest discussion in its tracks is to use the rhetorical equivalent of tossing a Molotov cocktail into a dinner party. This has been the very tactic used to vilify a new and exciting technological breakthrough known as Low-OX packaging,” Huffman said.

“Kalsec, a Michigan-based company that makes a competing technology, stands to lose market share if LOX continues to gain momentum. As a result, they’ve launched a media campaign to alarm consumers and attempt to deep-six LOX altogether,” Huffman noted.

Every meat product packaged in this system bears a use-by date established through extensive testing. And if the product were to spoil early due to temperature abuse, the offensive odor, coupled with the undesirable texture, will signal consumers that this is not what’s for dinner, Huffman pointed out.

“LOX is a beneficial technology that deserves a chance to compete fairly in the marketplace. Unfortunately, in its strident attack of LOX, Kalsec is calling into question the safety of all products in the meat case, hurting the entire meat industry, consumers and producers. Lobbing a hand grenade into the middle of a conversation might change the course of the discussion, but it will not end the debate. Let LOX have a chance,” Huffman added.

To read the op-ed and *USA Today*’s editorial, go to: <http://blogs.usatoday.com/oped/>. The site also includes a blog where readers may comment. To read the *Dakotan Free Press* guest editorial, go to: <http://www.meatami.com/StoryLinks/2007/dakotanop-ed.pdf>. ■

Levulinate Validated For Use As Antilisterial Agent, Study Finds

(from page 1)

acceptability of ready-to-eat meat products as compared to the current industry standards of sodium lactate and sodium lactate/diacetate mixture.

To achieve this, turkey breast roll and bologna were prepared to contain (v/wt) sodium lactate (2%); sodium lactate in combination with sodium diacetate (1.875% sodium lactate, 0.125% sodium diacetate); sodium levulinate (1, 2, or 3%); or no antilisterial additive. Samples were sliced, inoculated with a 5-strain cocktail (102 to 103 CFU/cm²) of *L. monocytogenes*, vacuum packaged, and stored at 2°C for 0-12 weeks. Two trials were performed for each turkey roll and bologna.

Under these conditions, sodium levulinate and the mixture of sodium lactate and diacetate met Food Safety Inspection

Service (FSIS) expectations for antimicrobial additives in both bologna and the turkey roll. Sodium lactate met antimicrobial expectations only in bologna, but not in the turkey roll.

These verification measures used by FSIS to determine the effectiveness of antimicrobial agents are based on the suppression of *L. monocytogenes* growth during the refrigerated shelf life of the product. Agents that allow more than 2 log growth are generally not eligible as antimicrobials, while agents that allow ≤1 log growth are classified as antimicrobial.

The study also determined, based on the results from a sensory panel consisting of anonymous consumers, that addition of antimicrobials (sodium lactate, sodium lactate plus diacetate, or sodium levulinate) were not detrimental to the sensory acceptability of turkey roll or bologna. ■

Ongoing AMI Foundation Research

E. coli O157:H7

Investigator	Institution	Project Title
Chance Brooks, Mindy Brashears, Mark Miller, Adam Tittor ¹	Texas Tech University	Impact of Ground Beef Packaging Systems and Temperature Abuse on the Safety and Quality of Ground Beef

¹Co-funded with the National Cattlemen's Beef Association

Listeria monocytogenes

Investigator	Institution	Project Title
Mary Alice Smith, Joseph Frank	University of Georgia	Refinement of <i>Listeria monocytogenes</i> (<i>L. monocytogenes</i>) Low Dose Data from Pregnant Guinea Pigs for Human Risk Assessment
Kathy Glass, James Claus	University of Wisconsin	Minimum Nitrite Levels Required to Control <i>Listeria monocytogenes</i> on Ready-to-Eat Meat and Poultry Products
Charles Carpenter, Jeffrey Broadbent	Utah State University	Validation of Levulinic Acid for Topical Decontamination of Meat Surfaces

Salmonella

Investigator	Institution	Project Title
Annette O'Connor ²	Iowa State University	A Systematic Review of Literature on Pork Chain Epidemiology

²Co-funded with the National Pork Board

Targeted Research

Investigator	Institution	Project Title
Mindy Brashears, Mark Miller, Chance Brooks, John Blanton, Christine Alvarado, Guy Loneragan	Texas Tech University, West Texas A&M University	Risk Factors and Consequences Associated With Condensation in Fresh and Ready-to-Eat Processing Facilities
Bradley Marks, Alicia Orta-Ramirez, Alden Booren, Elliot Ryser	Michigan State University	Determine the Likelihood that <i>Salmonella</i> Develops Heat Resistance during Thermal Processing of Commercial, Whole-Muscle, Ready-to-Eat Meat Products
Catherine Cutter, Ed Mills	Pennsylvania State University	Determination of the Efficacy of Chlorine Dioxide as an anti-Listerial Agent in RTE Brine Chilling Solutions
Jeffrey Savell, Kerri Harris, Alejandro Castillo, Wesley Osburn	Texas A&M University	Evaluation of Alternative Cooking and Cooling Procedures for Large, Intact Meat Products to Achieve Lethality and Stabilization Microbiological Performance Standards
Randall Phebus, Douglas Powell, Harshavardhan Thippareddi	Kansas State University, University of Nebraska	Beyond Intent: Assessment and Validation of On-package Handling and Cooking Instructions for Uncooked, Breaded Meat and Poultry Products to Promote Consumer Practices that Reduce Foodborne Illness Risks

Calendar of Events

For additional information on any of these upcoming events, or to register, please visit our Web site at MeatAMI.com and navigate to Events/Education or contact Heather Schoch at 202/587-4241 or hschoch@meatami.com.

Animal Care and Handling Conference

When: Feb. 14-15, 2008

Where: Westin Crown Center, Kansas City, Mo.

Annual Meat Conference

When: March 9-11, 2008

Where: Gaylord Opryland Resort and Convention Center, Nashville, Tenn.

Conference on Worker Safety, Health & Human Resources

When: April 13-15, 2008

Where: Marriott New Orleans at the Convention Center, New Orleans, La.

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Staff on the Move

The following is a list of recent industry meetings where AMI staff attended or participated as invited speakers.

Randy Huffman, Ph.D, Vice President of Scientific Affairs, AMI Foundation

Institute of Food Technologist Annual Meeting
Chicago, Ill., July 29-Aug. 1

National Pork Board, Pork Safety Committee Meeting on
Clostridium difficle, July 29

Meeting at Centers for Disease Control and Prevention
Atlanta, Ga., Aug. 8

Advanced Meat Processing Course Lecturer
University of Guelph, Ontario, Canada, Aug. 28-30

Beef Industry Food Safety Council Executive Committee Meeting
Denver, Colo., Sept. 5-6

17th Codex Committee on Residues of Veterinary Drugs in Foods
Breckenridge Colo., Sept. 2-7

Canadian Meat Council Symposium on
Advances in Antimicrobial Interventions for
Quality Control of Meat and Poultry Products
Toronto, Canada
Sept. 13-14

Food Marketing Institute Consumer Affairs, Communications
and Community Relations Seminar (speaker)
Hershey, Penn., Oct. 14-15

Skip Seward, Ph.D. Vice President, Regulatory Affairs

FSIS Pandemic Planning Task Force
Washington, D.C., June 27

Countermeasures for Meat and Poultry Establishments,
International Association of Food Protection Symposium
Orlando, Fla., July 9-12

Toured Toxin Technology Laboratory
Sarasota, Fla., Aug. 1

Participated in Department of Homeland Security
Meeting on Preparedness,
Washington, D.C., Aug. 22

Global Audit Harmonization Initiative
Chicago, Ill., Aug. 29-30

AMI Audit Harmonization Task Force,
Washington, D.C., Sept. 19-21

Interagency Import Safety Meeting,
Washington, D.C., Oct. 1

Janet M. Riley, Senior Vice President, Public Affairs and Professional Development

Food Marketing Institute Consumer Affairs, Communications
and Community Relations Seminar (speaker)
Hershey, Penn., Oct. 14-15

AMI Audit Harmonization Task Force,
Washington, D.C., Sept. 19-21