

# AMIFoundation News

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## Latest CDC Data Continues to Demonstrate Significant Declines in Foodborne Illness Rates

Government Data Reflect Similar Trends In Bacteria Declines on Meat Products

Foodborne illness rates in the U.S. continued to decline significantly from the baseline years of 1996-1998 to 2005, according to new data from the Foodborne Diseases Active Surveillance Network (FoodNet) at the Centers for Disease Control and Prevention (CDC).

The estimated incidence of infection over the long term with *Listeria* decreased 32 percent, *Campylobacter* decreased 30 percent, *E. coli* O157:H7 decreased 29 percent and *Salmonella* decreased 9 percent.

During the same time the incidence of infection rates have decreased, the incidence of bacteria on meat and poultry products has

### 2005 Foodborne Illness Incidence Compared to 1996 - 1998 Baseline: Significant Declines

PATHOGEN	CHANGE
<i>E. coli</i> O157:H7	29%
<i>Yersinia</i>	49%
<i>Listeria</i>	32%
<i>Campylobacter</i>	30%
<i>Salmonella</i>	9%

Source: Centers for Disease Control and Prevention

also decreased significantly. The incidence of *E. coli* O157:H7 in ground beef samples tested by USDA has declined by 80 percent since 1999

*Continued on page 5*

## AMIF Experts Offer Scientific Facts on Modified Atmosphere Packaging to Media, Policymakers

AMI Foundation experts have worked aggressively over the last several months to emphasize the science behind low-oxygen modified atmosphere packaging technology using carbon monoxide – a technology that has become embroiled in a public debate as a result of an unscientific competitive attack.

The technology has emerged in the market place over the past several years as the Food and Drug Administration (FDA) has accepted a series of requests from packaging and meat companies that it be generally recognized as safe (GRAS) for use with meat products.

Modified atmosphere packaging that uses a nitrogen, carbon dioxide and carbon monoxide gas mix offers distinct benefits to consumers,

retailers and meat and poultry companies. The system maintains meat's red color and prevents premature browning during red meat shelf life. Premature browning can lead to mark-downs and early discards by retailers. By maintaining meat's red color throughout its safe shelf life, the color of the meat mirrors its safety and wholesomeness, in AMIF's view.

In November, a petition to FDA by the maker of a competing technology claimed that FDA had erred when it granted the technology GRAS status. The petitioner subsequently launched a media outreach initiative that caused a media brushfire and a lobbying campaign on Capitol Hill to seek a ban of the low-oxygen packaging technology.

*Continued on page 9*

## Science Soundbites: A Review of Recent Research

### Commercial Slicers Can Transfer *Listeria*, Study Shows

Michigan State University researchers used a commercial deli slicer to study the transfer of *Listeria monocytogenes* (*L.m.*) from an inoculated slicer blade to 30 slices of uninoculated turkey breast, bologna and salami, from inoculated product to the slicer and from inoculated product to 30 slices of uninoculated product via the slicer blade. The study demonstrated that there was a greater transfer from the inoculated turkey to the slicer. It also showed that the transfer between the uninoculated products sliced with inoculated blades decreased with each slice. The higher fat and lower moisture content of salami, compared with turkey and bologna, resulted in a visible fat layer on the blade that likely prolonged *L.m.* transfer. Researchers believe that because of cross-contamination, the deli-sliced meats that allow growth of *L.m.* during prolonged refrigerated storage likely pose an increased public health hazard for at-risk consumers. The full study is published in the March issue of *Journal of Food Protection*.

### Finished Pig Fecal Samples Analyzed for *E. coli*

Researchers in Switzerland assessed the shedding (the process of excreting in feces *E. coli* O157:H7 and other Shiga toxin producing *E. coli* (STEC)) in healthy finisher pigs. The investigation sought to determine serotypes found in the fecal samples, types of Shiga toxin genes and associated virulence factors in the isolated strains. The study found that 7.5 percent of samples were positive for *E. coli* O157. These isolates of *E. coli* O157 from healthy pigs at slaughter produced no Shiga toxin, but *E. coli* with the O157 antigen can be enteropathogenic. In addition, STEC strains were found in healthy pigs at high prevalence rates (22 percent). While these strains represent a source

of carcass contamination, the majority of strains also lacked the combinations correlated with severe human disease. Despite this, it is possible, researchers believe that new combinations could emerge and that non-O157 STEC from pigs may represent a potential source of human infection. The entire project is published in the February issue of *Journal of Food Protection*.

### Study Tracks *Listeria* Infection in Mice

A study at the University of Georgia, in an effort to understand better the effect that fat content of foods has on the probability of developing listeriosis, observed mice infected with the disease. Researchers compared the extent of colonization and dissemination of *L.m.* in the gastrointestinal tract, liver and spleen of mice after they consumed milk products of different fat contents. The other objective of the study was to develop dose-response curves for *L.m.* infection as influenced by food vehicles of different fat content. Results of the survey showed that there was no dose-dependent effect on *L.m.* infection in the murine GI tract; however, researchers say they cannot discount the possibility that it may be a factor in human *L.m.* infections, give the physiological differences between mice and humans. Researchers published their study in the March issue of *Journal of Food Protection*.

### Analysis of Retail Food Shows Need for Better Pathogen Control for Sprouts, Mushrooms

The Institute for Environmental Health, Inc. led a study to find the incidence of Enterohemorrhagic *Escherichia coli* (EHEC), *Escherichia coli* O157, *Salmonella* and *Listeria monocytogenes* in retail ground beef, sprouts and mushrooms from the Seattle, Wash. area. Researchers tested 2,050 samples over a 12-month period and found that of the 1,750 ground beef samples,

3.5 percent tested positive for EHEC, 1.1 percent tested positive for *E. coli* O157 and 3.8 percent tested positive for *Salmonella*. Of 512 ground beef samples tested for *L.m.*, 3.5 percent tested positive. Of 200 sprout samples, 6 percent tested positive for EHEC, 1.5 percent for *E. coli* O157, 7.0 percent for *Salmonella* and 0 percent for *L.m.* Mushrooms, of which 100 samples were taken, 4 percent tested positive for EHEC, 0 percent for O157, 5 percent for *Salmonella* and 1 percent for *L.m.* A full report can be reviewed in the February issue of *Journal of Food Protection*.

### Some SRM Contamination Still a Concern, Study Shows

A study performed at Colorado State University that compared the sensitivity and repeatability of three methods to detect the presence of neural tissue in meat, including dorsal root ganglia (DRG), concluded that none of the three methods were capable of detecting DRG in meat. Compared to spinal cord and brain, the concentration of glial fibrillary acidic protein (GFAP) is extremely low – making it difficult to detect by any of the methods tested. Researchers concluded that an immunoassay with an increased sensitivity capable of detecting DRG in meat products would provide a valuable analytical tool. The study did find that the fluorescent enzyme-linked immunosorbent assay (F-ELISA) was the most effective assay of those tested for the detection of central nervous system (CNS) contamination in or on meat. A full report can be reviewed in the March issue of *Journal of Food Protection*.

### Review of Vacuum-Sealed RTE Products Demonstrates Need for More Information

Two Dutch researchers reviewed information on the thermal surface

*Continued on page 7*

**Ongoing AMIF Research - *E. coli* O157:H7**

<b>Investigator</b>	<b>Institution</b>	<b>Project Title</b>
John Scanga, J.N. Sofos, K.E. Belk, G.C. Smith  Reducing Bins of Beef (the interior) Beef Cuts Subjected to Moisture-Enhancement Tenderization	Colorado State University	Use of Warm (55°C) 2.5% or 5.0% Lactic Acid for: (A) Reducing Microbial Counts on Beef Subprimal Cuts and Beef Trimmings Following Fabrication, and (B) Incidence of <i>E. coli</i> O157:H7 in Combo- Trimmings and Inside (in Blade/Needle or
Rowland Cobbold <sup>1</sup> , Dale Hancock <sup>1</sup> , Tom Besser <sup>1</sup> , Janice Berg <sup>2, a</sup>	<sup>1</sup> Washington State University <sup>2</sup> Lakeside Research	Role of Super-shedders in Determining Feedlot Pen Prevalence of <i>E. coli</i> O157:H7
Randall Phebus, James Marsden, Abbey L. Nutsch, Curtis L. Kastner,	Kansas State University	Elimination of <i>Escherichia coli</i> O157:H7 and <i>Salmonella</i> spp. on Beef Trimmings Prior to Grinding Using a Controlled Phase Carbon Dioxide System: Process Validation and Quality Carlos Arturo Tanus Determinations after Packaging and Retail Display

<sup>a</sup> This project is co-funded by the National Cattlemen's Beef Association.

**Ongoing AMIF Research - *Listeria monocytogenes***

<b>Investigator</b>	<b>Institution</b>	<b>Project Title</b>
Kumar Venkitanarayanan, Cameron Faustman, David Dzurec	University of Connecticut	Inactivation of <i>Listeria monocytogenes</i> on Ready-to-Eat Meat Products (Deli Turkey Breast and Frankfurter) by Monocaprylin
Peter Muriana, J. Roy Escoubas	Oklahoma State University	Pre- and Post-package Pasteurization of RTE Meats for Reduction of <i>Listeria monocytogenes</i>
Charles Carpenter, Jeff Broadbent	Utah State University	Anti- <i>Listeria</i> Action of Levulinate
Kathleen Glass, Eric Johnson, James Claus	University of Wisconsin	Controlling <i>Listeria monocytogenes</i> on Ready-to-Eat Meat and Poultry Products using Food-Approved Antimicrobials
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</i> <i>monocytogenes</i> on Ready-to-Eat Meat and Poultry Products

To view status reports for these projects, visit [www.amif.org](http://www.amif.org).

**Ongoing AMIF Research – Targeted Research**

<u>Investigator</u>	<u>Institution</u>	<u>Project Title</u>
Mindy Brashears, Mark Miller, Chance Brooks, Processing John Blanton, Christine Alvarado, and Guy Loneragan	Texas Tech University, West Texas A&M	Risk Factors and Consequences Associated With Condensation in Fresh and Ready-to-Eat 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
Charles Kaspar, Ellin Doyle,	University of Wisconsin -Madison	White Paper on Human Illness Caused by <i>E. coli</i> O157:H7 from Food and Non-Food Sources

## Worker Safety, Health and Human Resources Conference Highlights Immigration, Security Issues

The Foundation’s Conference on Worker Safety, Health and Human Resources Conference, held April 9 – 11, 2006, at the Hyatt Regency Denver at Colorado Convention Center in Denver, Colo., continued to keep attendees ahead of the curve on issues specific to the meat and poultry industry. This year’s conference included traditional mainstays, such as ergonomics, but also included some timely issues, including three sessions on immigration and two on security at agricultural processing facilities.

The sessions on immigration were especially timely, as Congress was in the process of debating a variety of bills ranging from the criminalization of undocumented workers and the people who assist them to the creation of a guest worker program that would allow immigrants into the United States to work for up to a certain number of years. Sessions updated attendees on a variety of related subjects including recent legislative actions, community outreach and education programs and industry best practices.

The sessions on security and protecting processing facilities, animals and workers were well attended. One addressed risk assessment and determining the level of protection necessary based on location, size and other

characteristics. Another looked at training first responders to deal with a variety of security incidents that could occur.

Other sessions included ergonomics, arc-flash protection and personal protection equipment (PPE), accident investigations, developing positive employee relations, discrimination in the workplace, crisis and disaster management, contractor safety issues, workers compensation, humane animal handling and employee safety. The closing general session featured Neil Wasser, partner, Constangy, Brooks and Smith, LLC, who reviewed actions by OSHA in 2005 and looked ahead at expectations for the agency in 2006.

The conference closed with the distribution of 130 Worker Safety Recognition Awards. Premium Standard Farms COO, and AMI Chairman, Robert Manly and AMI President J. Patrick Boyle were on hand to distribute and congratulate the award recipients. The Worker Safety Recognition Awards are presented each year to individual plants and are based on proactive efforts by the plant to reduce injury and illness among workers and on the number of incidents that occurred.

A complete agenda of the conference – including selected presentations – and a list of award recipients are available online at [MeatAMI.com](http://MeatAMI.com). ■

# Latest CDC Data Continues to Demonstrate Significant Declines in Foodborne Illness Rates

Continued from page 1

the incidence of *Salmonella* in ground beef declined 75 percent since 1998. The incidence of *Listeria monocytogenes* on ready-to-eat meat and poultry has declined from 4.5 percent in 1990 to 0.55 percent in 2004.

“These data affirm that our successful efforts to reduce bacteria on meat and poultry products are having corresponding public health benefits,” said AMI Foundation President James H. Hodges. “The fact that we are poised to achieve our public health goals well ahead of schedule is an achievement about which this industry — and this nation — can be proud.”

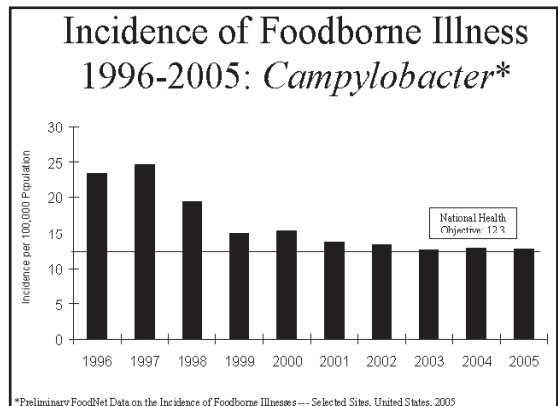
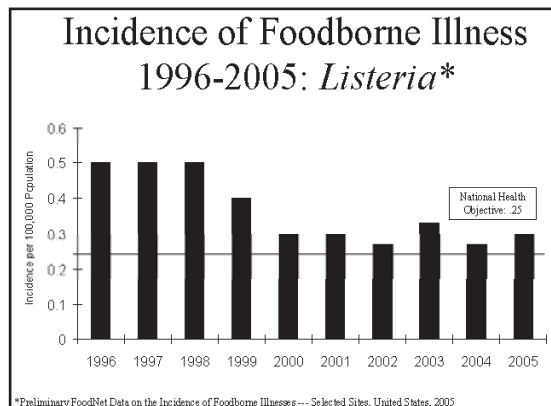
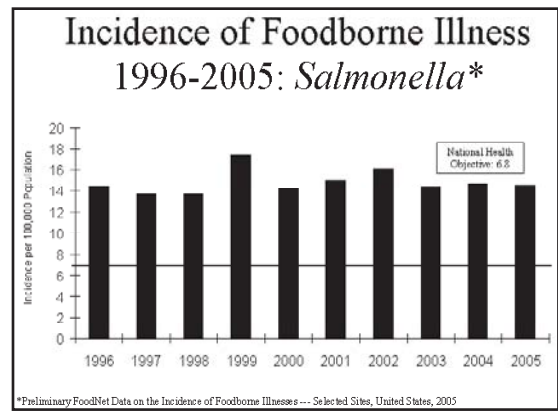
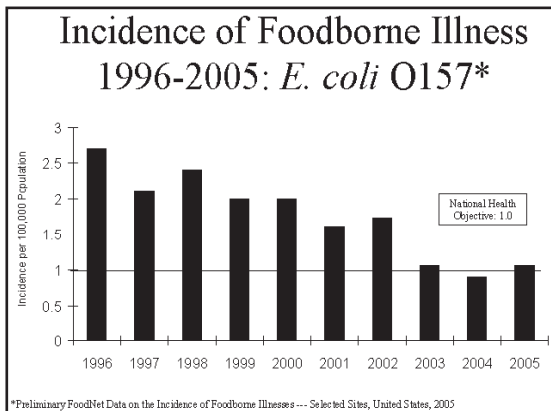
Hodges said that in recent years, new food technologies, more science-based rules and better consumer knowledge about safe handling practices have converged to make the U.S. meat supply — already among the safest in the world — even safer.

A complete listing of updated FoodNet Data can be found online at <http://www.cdc.gov/foodnet/>. AMI’s consumer web site [www.meatsafety.org](http://www.meatsafety.org) also includes easy to view charts accessible from the home page. ■

## AMI Food Safety Education Efforts Honored With Award

The American Meat Institute (AMI) was named to the American Society of Association Executives (ASAE) 2006 Associations Advance America Honor Roll in recognition of its food safety education initiatives.

AMI’s Food Safety Education program includes its consumer education site [meatsafety.org/](http://meatsafety.org/) [poultrysafety.org](http://poultrysafety.org), consumer brochure about safe handling and its print and broadcast media outreach efforts that have helped educate consumers about safe handling practices, thermometer use during cooking, sodium nitrite safety and other key topics.



## Scientific Approach Responsible for Reduction in BSE Cases, Reports FAO

The United Nations Food and Agriculture Organization (FAO) reported in March that worldwide cases of bovine spongiform encephalopathy (BSE) continued to decline.

In 2005, 474 animals died of BSE around the world. The decrease represents a third year of a 50 percent reduction in cases. In 2004 and 2003, 878 and 1646 animals died, respectively. The last three years are a significant difference when compared to 37,280 in 1992, when cases of BSE peaked.

The FAO supplied as reason for the steady decline the implementation of a scientific approach to detect and control BSE. Through this, the FAO said they have fought to eradicate the disease from affected countries and stop the spread of BSE to unaffected areas.

“It is quite clear that BSE is declining and that the measures introduced to stop the disease are effective. But further success depends on our continuing to apply those measures worldwide,” said Andrew Speedy, an FAO animal production expert, in a statement.

In their efforts to halt the spread of BSE, experts from the FAO and Switzerland have run courses for specialists from countries such as Serbia, Egypt, Vietnam, Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Paraguay on BSE diagnosis, surveillance and prevention in the animal feed and meat industries.

The organization is promoting the adoption of tracking systems that allow farmers and processors to identify animals from birth to the grocery store shelf. While Europe implemented a tracking system for livestock, many countries, including the United States, are still working on partial or full execution.

The FAO also reported only five human deaths from variant Creutzfeldt - Jakob disease (vCJD), also known as the human form of BSE, down from nine reported cases in 2004. All 2005 cases developed in the United Kingdom. ■

## Prevalence of BSE in U.S. ‘Extraordinarily Low,’ Johanns Says

The prevalence of BSE in the U.S. is “extraordinarily low,” Agriculture Secretary Mike Johanns said in late April in a teleconference to discuss the status of the enhanced BSE surveillance program that began in June 2004.

Data indicate the U.S. may have between four and seven BSE positive cattle in its adult herd. This equates to less than one case per million adult cattle, based on an adult cattle population of 42 million animals. The estimate of BSE prevalence in the U.S. is based on data gathered from the enhanced surveillance effort underway since June 2004 and from surveillance conducted during the previous five years.

Johanns also said that the Department’s prevalence analysis will be peer-reviewed by outside experts by the end of May. USDA will then use the analysis and international standards to design an ongoing BSE surveillance program. During the teleconference, officials stressed that the surveillance program was a ‘Type A’ program as defined by the OIE, which is designed to establish prevalence. The level of testing done under the program exceeded OIE guidelines by ten times. Once the peer review is complete, USDA will explore moving into a ‘Type B’ maintenance surveillance program, which they stressed will meet or exceed OIE guidelines as well.

“This is very good news for the U.S. beef industry,” said AMI Foundation President James H. Hodges. “Clearly, our multiple firewalls have worked to protect our herds and the public health.”

The BSE enhanced surveillance program analysis and summary report are available at [http://www.aphis.usda.gov/newsroom/hot\\_issues/bse.shtml](http://www.aphis.usda.gov/newsroom/hot_issues/bse.shtml). ■

# Customer Perspective, Plant Security Top Draws at Animal Handling Conference

The 2006 Animal Care and Handling Conference for the Food Industry, held Feb. 23-24, 2006, at the Sheraton Overland Park in Overland Park, Kan., featured a successful mix of animal handling and welfare basics and management and policy topics relating to animal production and processing.

Two featured presentations included one regarding the customer perspective on animal welfare and another on animal extremism. The first, Customer Perspective on Animal Welfare, featured Joan Menke-Schaenzer, vice president of food safety at Wal-Mart, and Rob Cannell, director of procurement at McDonald's. Questions from the audience delved into why proper animal handling methods are important and necessary for their suppliers to use. They also discussed their efforts to integrate as their respective companies continue to expand globally.

John Lewis of the FBI's Counter Terrorism Division led the presentation Animal Extremism: The Challenges We Face. Lewis touched on the wide range of groups that target animal producers and processors – from the most passive to the highly violent – and how to respond appropriately when targeted.

This year's conference also featured an in-depth presentation on CO<sup>2</sup> stunning. It included specific information on the benefits of the process, how it works in comparison to other stunning methods, how it has been implemented at facilities and the impact it has had on the plant's employees.

Premium Standard Farm's President and COO, and AMI Chairman, Robert Manly also led a remarkable discussion on the cultural change that has occurred at his company in regards to the benefits of improved animal handling and welfare. Temple Grandin, Ph.D., president of Grandin Livestock Handling Systems and a professor at Colorado State University led a core of presentations focusing on a greater understanding of the behavior of pigs and steer.

The second International Meat Animal Welfare Research Conference (IMAWRC), held Feb. 22, preceded the Animal Care and Handling Conference. Cosponsored by the Federation of Animal Science Societies, the American Meat Science Association and the Canadian Meat Council, the conference featured the latest research in the areas of animal welfare, care and handling.

Topics covered included genetics, housing, environmental conditions and stunning for pigs and cattle, transportation of pigs, the relationship between animal handling and the quality

of the end product, an update on methods of data collection for religious slaughter and the keynote address from Dr. Grahme Coleman of Monash University in Australia. Coleman's address provided an excellent overview of the interaction between humans and animals. His research uses both experimental data and objective field measurements to demonstrate that even subtle differences in stockperson behavior and attitudes can result in a measurable impact on animal welfare and productivity.

A complete agenda of both events – as well as select presentations – are available online at [www.animalhandling.org](http://www.animalhandling.org). ■

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## Science Soundbites

*Continued from page 2*

pasteurization of vacuum-sealed precooked ready-to-eat meat products with the conditions of commercial production lines, in order to formulate a guideline of pasteurization intensity. The review showed that more information on contamination with *Listeria monocytogenes* (and other possible pathogens) in process lines and their potential migration into product surface irregularities is needed. The researchers suggest that studies involving destructive sampling (surface shaving) methods and inoculation with pathogens, both at realistic and inflated levels, should be performed with various products. The study can be found in the February issue of *Journal of Food Protection*.

### **Listeria Inhibitor Tested for Use on Cooked Products**

Researchers at Louisiana State University and a cooperating meat processor found that acidified sodium chlorite (ASC) can be used as a processing aid to reduce levels of *Listeria monocytogenes* on the surface of cooked roast beef. The study looked at 5 gram cubes of cooked regular or spicy roast beef inoculated with *L.m.* and either dipped into or sprayed with ASC solutions of varying concentrations. Researchers found a significant reduction in *L.m.* for the samples treated with less than or equal to 500 ppm of ASC. They did not find a significant difference between samples that were vacuum or nonvacuum-packaged. Additionally, sensory evaluation showed no significant differences between ASC-treated and untreated products. The report can be found in the February issue of *Journal of Food*

## 2006 Research Dollars Directed at *Listeria*, *E. coli*, *Salmonella*, Condensation

The AMIF Board of Directors approved the following projects for funding in 2006. These approvals are based on recommendations from the Research Advisory Committee and represent nearly half a million dollars in research funding. Projects awarded with funding demonstrate a potential for commercial applicability to the processing plant and ability to improve food safety in the meat and poultry industry.

### **Refinement of *Listeria monocytogenes* Low Dose Data from Pregnant Guinea Pigs for Human Risk Assessment**

Mary Alice Smith and Joseph Frank, of the University of Georgia, will use guinea pigs to help fill in information gaps in the low dose region of the dose response curve for *Listeria monocytogenes*. The overall goal of the research is to use animal models – the guinea pigs – to develop dose response information for human listeriosis. The researchers find that a major limitation in conducting a risk assessment for *L.m.* is the lack of information in the low dose region of the dose response curve. Data from this research will be used to understand and predict morbidity and mortality, especially in the interest of listeriosis during pregnancy.

### **Risk Factors and Consequences Associated With Condensation in Fresh and Ready-To-Eat Processing Facilitates**

In a collaborative effort, researchers from Texas Tech University and West Texas A & M University will examine the risk factors associated with condensation in processing environments where both fresh and ready-to-eat products are produced. The goals of the project are to determine the microbial risk associated with condensation and identify controllable risk factors associated with condensation formation. The project is a response to the recent attempts by many processors to address condensation in plant HACCP plans. Researchers believe there is simply not sufficient data to do a thorough hazard analysis on the risk associated with condensation or to establish critical control points, critical limits or monitoring methods needed in a HACCP plan. They hope to address this problem with their study.

### **Determination of the Efficacy of Chlorine Dioxide as an anti-Listerial Agent in RTE Brine Chilling Solutions**

Pennsylvania State University researchers Catherine Cutter and Ed Mills plan to test chlorine dioxide as an anti-Listerial agent on ready-to-eat meat products. Cutter and Mills will test the survival of *Listeria monocytogenes* in brine solutions containing three parts per million chlorine dioxide, the level of residual chlorinated compounds on a variety of ready-to-eat meat products – including small and large diameter sausage products and whole muscle products – and the microbiological profile of treated and untreated products over an extended refrigerated shelf life. The project will also include a trained consumer panel

to test the sensory properties and the acceptability of the treated versus the untreated products.

### **White Paper on Human Illness Caused by *E. coli* O157:H7 from Food and Non-Food Sources**

Three University of Wisconsin-Madison investigators, Charles Kaspar, Ellin Doyle and Ronald Weiss, will perform a comprehensive search of all relevant documents from the date that *E. coli* O157:H7 was first recognized as a possible human pathogen in 1978 to the present day to be collected in a single White Paper. The researchers will search a diverse group of topics, including the emergence of O157:H7 as a human pathogen, surveillance and outbreak reports, epidemiological studies, important government regulations and industry initiatives to control O157:H7. The data will be summarized with reference to surveillance strategies, procedures for collecting epidemiological data, food and non-food vehicles and vectors and factors important in causing illness. The data will also be analyzed to assess the effectiveness and limitations of current methods for collection of epidemiological information.

### **Determine the Likelihood that *Salmonella* Develops Heat Resistance during Thermal Processing of Commercial, Whole-Muscle, Ready-to-Eat Meat Products**

A team of Michigan State University researchers have begun their project to determine if *Salmonella* can develop heat resistance during thermal processing of whole-muscle, ready-to-eat meat products. The validating process is required by federal regulation but lacks, according to the investigators, all of the variables that may affect pathogen survival. The team is looking to adapt, for whole-muscle products, a model recently developed at MSU to predict the rate of *Salmonella* thermal inactivation as a function of both product temperature and prior (sub-lethal) thermal history, to validate this model via pilot-scale challenge studies with whole-muscle products inoculated with *Salmonella* and subjected to moist-air cooking that emulates commercial processes and to evaluate whether any resulting increase in *Salmonella* thermal resistance would have practical impact on the compliance of typical commercial cooking operations with the USDA-FSIS lethality performance standards for RTE products.

### **Minimum Nitrite Levels Required to Control *Listeria monocytogenes* on Ready-to-Eat Meat and Poultry Products**

Kathy Glass and James Claus at the University of Wisconsin are working to identify the minimum level of sodium nitrite required to suppress growth of *Listeria monocytogenes* in ready-to-eat meat and poultry products manufactured with lactate and diacetate using a single model meat system with a

*Continued on page 10*



## CO Packaging Safe Technology, AMIF says

*Continued from page 1*

### AMIF on the Air

In a Feb. 21 letter to FDA, and in a series of statements to the media, AMIF noted that the controversy was out of a competitive interest — not a food safety concern. AMIF urged FDA “to give a petition making unfounded allegations about meat packaging systems a thorough and expedited review.”

AMIF’s Vice President of Scientific Affairs Randall Huffman, Ph.D., explained in dozens of media interviews, including ABC’s Good Morning America, CNN’s Anderson Cooper 360, the CBS Evening News, NBC Nightly News with Brian Williams, NBC4 Washington, D.C. (distributed to all NBC affiliates) and local stations in Chicago and St. Louis that first and foremost, this technology benefits consumers.

“This technology helps maintain the quality of fresh products, retarding off-flavors, and giving consumers a more pleasurable eating experience. For consumers, this also means that once purchased, products will maintain their quality and integrity longer while in the refrigerator at home,” Huffman told the media. He also stressed that meat products packaged in this way bear use-by or sell-by dates that give the consumer clear and unmistakable advice about when to use or freeze the product.

AMIF also strived to set the record straight on allegations that USDA had concerns about the technology. Specifically, AMIF highlighted for the media a June 2, 2004, letter from Robert Post, Ph.D., director of USDA’s Food Safety and Inspection Service Labeling and Consumer Protection staff, in which Post wrote, that the technology “will not mislead consumers into believing that they are purchasing a product that is fresher or of greater value than it actually is or increase the potential for masking spoilage.”

Huffman took his comments all the way to the Chicago City Council, which held a public meeting in March to discuss a possible ban on the technology within the city limits.

“The victims of this campaign are both the truth, and unfortunately, consumers,” Huffman told the city council. The Chicago City Council should show that it will not be used as a pawn in a company’s scramble to maintain its market share by terrifying consumers about the safety of the meat products they purchase for their families.”

AMIF was not alone in its advocacy efforts. Meat scientists from across the country weighed in on the debate, aiming to defend the safety and beneficial technology. Mel Hunt, Ph.D., a meat scientist for three decades and professor at Kansas State



University, testified before a congressional hearing regarding the process and safety of the packaging system in question. In a letter to the *Kansas City Star*, Hunt noted, “a great injustice has been done by the media on the issue of carbon monoxide packaging technology used for meat.”

Another expert in the field, Daren Cornforth, Ph.D., professor of animal science at Utah State University, noted in an op-ed published in the *Deseret Morning News* that consumers rely on a variety of senses, including sight, smell and feel to ascertain if a product is spoiled.

Also weighing in on the technology’s safety was Michael T. Osterholm, PhD, MPH, director of the Center for Infectious Disease Research and Policy (CIDRAP), associate director of the Department of Homeland Security’s National Center for Food Protection and Defense (NCFPD), and professor in the School of Public Health, University of Minnesota.

“I have no concerns whatsoever about it [the use of CO]. Clearly, it’s just not a food-safety issue. In 30 years of public health work, I have never seen a spoiled food product involved in a food-borne outbreak,” Osterholm told the media.

AMIF has used [www.MeatSafety.org](http://www.MeatSafety.org) as a vehicle to communicate directly with consumers and the media about this important technology.

“We are committed to remaining engaged in this issue until any remaining questions about this technology are laid to rest based upon the science,” Huffman said. “And the science clearly says it is a safe, appropriate and beneficial technology.”

## Calendar of Events

For additional information on any of these upcoming events, or to register, please visit our website at [MeatAMI.com](http://MeatAMI.com) and navigate to Events/Education.

### AMI Annual Convention & 2006 Innovation Showcase

**When:** Oct. 4 – 5, 2006  
**Where:** Westin Diplomat Resort, Hollywood, Fla.  
**What:** The AMI Annual Convention and Innovation Showcase is your only opportunity in 2006 to gain the latest insights and perspectives on the meat and poultry industry. Attendees have a chance to visit with some of the most creative companies in the industry at the Innovation Showcase. This convention is the perfect place to discuss the future of the industry with those who will help to create it.

**Contact:** Laura Quartuccio, 202/587-4242 or [lquartuccio@meatami.com](mailto:lquartuccio@meatami.com)

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### Implementing *L.m.* Intervention & Control

**When:** Nov. 14 – 15, 2006  
**Where:** Hyatt Regency Denver at Colorado Convention Center, Denver, Colo.  
**What:** AMIF is pleased to present the new Implementing *Listeria monocytogenes* Intervention and Control Workshop. This highly rated educational opportunity is designed to help manufacturers of ready-to-eat (RTE) meat and meat products examine the issues surrounding testing and to provide experience in developing appropriate sanitation standards and procedures for processing RTE products. In addition to assuring optimal product safety, implementing best practices for RTE processing offers a key benefit: helping to assure compliance.  
**Note:** Registration is limited to 60 participants.

**Contact:** Katie Brannan, 202/587-4223 or [kbrannan@meatami.com](mailto:kbrannan@meatami.com)

### 2007 Annual Meat Conference

**When:** Feb. 18 – 20, 2007  
**Where:** Caribe Royale All-Suites Resort and Convention Center, Orlando, Fla.  
**What:** The Annual Meat Conference is the premier educational event for retailers of meat and poultry products. Conference programming examines the hottest trends from ethnic marketing to flavor innovation, details pressing public policy issues in areas such as nutrition and labeling and offers training in key areas such as crisis management and media relations. Attendees also sample hundreds of meat

and poultry products at the conference's most popular event: the Product Tasting Reception. A special Tech Fair Luncheon offers exhibits of new technologies of interest to retailers and processors. The conference also provides ample networking opportunities to gather new ideas – and new customers.

On the web: [www.meatconference.com](http://www.meatconference.com)

**Contact:** Marie D. Ternieden, 202/587-4228 or [mternieden@meatami.com](mailto:mternieden@meatami.com)

#### Make Your Plans to Attend RMC 2006

The AMI Foundation is a proud Bronze Donor and sponsor of the American Meat Science Association's 59th Reciprocal Meat Conference (RMC), held June 18 – 21, 2006 at the University of Illinois at Urbana-Champaign. The RMC connects meat science professionals, government representatives and professors and students from the world of academia with presentations on the latest trends, research and new ideas related to meat science. For more information, visit <http://www.meatscience.org/rmc>.

## 2006 Research Dollars

*Continued from page 8*

represent high-moisture products that may support rapid growth of *L.m.* if no antimicrobials were present. Data collected by Glass and Claus from this study will be available for use by the industry to expand development of safe RTE meat and poultry formulations and potentially reduce the overall levels of antimicrobials used to ensure a safe product. ■

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