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NEWS

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Surface Treatments of Acidified Calcium Sulfate Reduce *Listeria* on RTE Products

Texas A & M Research Could Help Make RTE Meats Safer

An acidified calcium sulfate solution called Safe₂O, applied to the surface of frankfurters, produced significant reductions in *Listeria monocytogenes* (*L.m.*) and prevented regrowth of the pathogen, keeping the pathogen at the minimum level of detection over a 12-week period, according to a study released by the AMI Foundation last month.

Jimmy Keeton, Ph.D., at Texas A&M University, found that *L.m.* numbers were reduced by 5.8 logs on the surface of frankfurters treated with Safe₂O and those numbers

remained at the minimum level of detection of 1.7 logs over a 12-week storage period at 40 degrees F.

Of the two other substances that were tested, only 3.4 percent lactic acid showed some reduction in *L.m.* growth on frankfurters. Treatment with lactic acid initially reduced the number of organisms, but failed to kill all of them and prevent *L.m.* from growing again on the frankfurter during refrigerated storage. Potassium lactate applied to the surface did not effectively retard growth.

In the study, researchers divided

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Lactic Acid Bacteria Promising as *L.m.* Growth Inhibitor in Plant Environment, Study Finds

Strains of lactic acid bacteria can inhibit the growth of *Listeria monocytogenes* (*L.m.*) when in biofilms for extended periods of time, according to research released last month by the AMI Foundation. The lactic acid bacteria, which included types often used as starter cultures for meat fermentation, were proven effective even at temperatures as low as 39 degrees F.

The research was done by Michael P. Doyle, director of the Center for Food Safety and his scientific staff at the University of Georgia, in Griffin, GA.

Doyle's team isolated 413 microbial isolates using biofilms from floor drains on food processing facilities with a history of no *L.m.* contamination. Initial screening identified 24 candidates with anti-listerial activity. Further competitive testing between the microorganisms and *L.m.* in broth and biofilms at different

temperatures identified nine bacterial isolates that effectively reduced, controlled or eliminated detectable *L.m.* depending on environmental conditions.

A five-strain mixture of 10³ *L.m.*/ml and 10⁵ CFU of the competitive microorganism/ml were combined in broth and incubated at 99 degrees F for 24 hours, 59 degrees F for 14 days, 46 degrees F for 21 days and 39 degrees

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Science Soundbites

Sodium Bicarbonate Can Enhance Meat Quality

University of Wisconsin-Madison researchers discovered a new use for sodium bicarbonate—it improves the quality of meat from pigs and other livestock.

Working in the College of Agricultural and Life Science, UW-Madison researchers Robert Kauffman, Marion Greaser and Ronald Russell along with Ed Pospiech, a visiting scientist from Poland, developed and patented a technique that controls the acidity of meat. Meat from all animals typically becomes more acidic prior to slaughter, but in animals with pale soft exudative condition, the acidic change occurs more rapidly.

The method calls for injecting a sodium bicarbonate solution into the meat where it diffuses through the tissue.

For more information contact Robert Kauffman, 608/238-7878.

Iowa State University Develops Technology to Eliminate Off-Odor Caused by Irradiation.

Inventors at Iowa State University have developed a technology that eliminates off-odor and color change problems in irradiated poultry and pork.

The technology is available for licensing and commercial development from the university's Office of Intellectual Property and Technology Transfer. A summary of the technology and licensing information is available at http://www.iastate.edu/~isurf/tech/WEB_Teaser_02841.html

Toxicologists Weigh In on Genetically Modified Foods.

Genetically modified foods present no more risk than conventional foods, the Society of Toxicologists concluded in a September 2002 position paper.

The paper makes four main points: evidence shows that potential adverse effects from GM foods are no different than from conventional foods; the concept that GM foods are substantially equivalent to conventional foods is supported; safety to consumers of GM foods is no different from other foods; and the changes in composition of GM foods are quite limited. The report is available at http://www.toxicology.org/information/GovernmentMedia/GM_Food.html.

Organic Foods Are Not Healthier Than Conventional Foods.

Organic foods are not superior in nutritional quality or safety when compared against conventional foods, yet organics do have the potential for greater pathogen contamination, according to the Institute of Food Technologists (IFT).

“Organics cannot supply foods always free from pathogens or pesticides, and cannot provide our nation with a more nutritional, diverse and safe food supply than we currently enjoy,” said IFT President Mark McLellan, an agricultural methods expert and the director of the Institute of Food Science and Engineering at Texas A&M University.

Scientific evidence indicates that health risks associated with disease-causing microorganisms are far greater than risks associated with pesticide residues, IFT said. Neither organic nor conventionally grown foods are free from pesticides.

High Carbo Foods Exposed to High Heat Are Safe as Part of Balanced Diet.

High-heated, high carbohydrate foods are safe as part of a balanced diet, the Institute of Food Technologists (IFT) said.

IFT food science expert Carl Winter, Ph.D., a professor at the University of California at Davis, advises careful study of acrylamide connection to food.

“The most important thing is not the presence or absence of any type of ingredient, but how much is there,” says Winter. It is important to note, says Winter, that “There will always be some risks associated with eating any foods.”

Discovered only recently in popular high-carbohydrate foods, such as fried potatoes, potato chips and breads, acrylamide is being studied in the U.S. and abroad as a potential carcinogen. The compound has been found to cause cancer in laboratory animals exposed to large quantities.

AMIF Animal Handling Training Videos Now In Spanish

Spanish versions of the AMI Foundation's popular "Good Animal Handling Practices for Beef Processors" and "Good Animal Handling Practices for Pork Processors" are now available.

The 13-minute video features Temple Grandin, Ph.D., assistant professor of animal science at Colorado State University, as the primary instructor.

The Spanish versions of the video are available for \$55 including shipping and handling. To order, visit <http://www.AMIF.org> to download an order form, which may be faxed to AMIF at 703/527-0938. Orders must be prepaid by check or credit card.

Questions should be directed to AMI Staff Assistant, Education and Convention, Laura Quartuccio, 703/841-3648, lquartuccio@meatami.com.

AMIF, NTF Sponsoring *Listeria* Workshops in 2003

The American Meat Institute Foundation (AMIF) and the National Turkey Federation (NTF) are sponsoring AMIF's popular "Implementing *Listeria* Intervention and Control" workshop Feb. 5 – 6, 2003, at the Hilton Palacio del Rio in San Antonio and April 2 – 3, 2003, at the Hilton Milwaukee City Center in Milwaukee.

The course is designed to help participants examine the issues surrounding *Listeria* control and testing and to provide experience in developing and implementing a *Listeria* control program in ready-to-eat meat and poultry establishments.

The importance of this issue is underscored by recent actions taken by the U.S. Department of Agriculture. On Dec. 12, 2002, USDA's Food Safety and Inspection Service (FSIS) made final its administrative directive 10,240.3 that outlines additional steps FSIS inspectors will take to determine if establishments producing ready-to-eat products are taking the necessary steps to prevent contamination with *Listeria monocytogenes*.

Each two-day workshop will address sanitary design, product formulation and post-packing technology, microbiological sampling, data analysis and

investigation and corrective actions. The workshops also will include a technology fair where attendees can meet directly with suppliers.

Participants also will have the opportunity to work through on-the-job scenarios in small groups with workshop speakers. AMI regulatory and scientific affairs staff will be on hand to answer questions and help solve problems. Breakout sessions will allow participants to deal with different *Listeria* related scenarios in small groups.

The course material will be presented by representatives from the following companies: Cargill, Inc., ConAgra Refrigerated Prepared Foods, Ecolab Inc., Hormel Foods Corporation, John Morrell & Co., Land O'Frost, Inc. and Oscar Mayer/Kraft Foods.

Registration is limited to 60 participants for each workshop to ensure a quality learning experience.

To register for the February workshop, contact Brie Wilson at bwilson@turkeyfed.org.

To register for the April workshop, visit <http://www.meatami.com>. Direct questions regarding the workshop to Katie Brannan at 703-841-3621 or kbrannan@meatami.com.

Elite Herb Extracts Inhibit Growth of *Listeria* on Ready-to-Eat Meats, Study Reveals

An elite oregano extract with high levels of rosmarinic acid proved effective as an antimicrobial agent against *Listeria monocytogenes* (*L.m.*) on ready-to-eat meat and poultry, according to a study released this month by the AMI Foundation. Kalidas Shetty, Ph.D., at the University of Massachusetts, Amherst, conducted the study.

Ethanol extracts of an elite phenolic phytochemical-producing clonal line of oregano (*Origanum vulgare*) were used to assess its inhibitory potential against *L.m.* in both broth and meat systems. The extract was chosen to combat the problem of diverse ingredients among different batches of the same plant species. Thymol and carvacrol, two of the main phenolic constituents of oregano extracts, also were tested in both systems to evaluate their activity against that of the whole oregano extract.

Results indicate that thymol, carvacrol and the clonal oregano line were all effective in inhibiting the growth of *L.m.* in both broth and meat systems. Researchers found the greatest growth inhibition when the whole oregano extract, which is high in rosmarinic acid, was used in meat systems. In meat systems, 800 ppm of the oregano extract

significantly inhibited the growth of the pathogen, and this was shown to be more effective than just the phenolic extracts tested separately. From these studies it appears that one of the keys to effectiveness is the ability of the compound to be active at the interface of the lipid – water phase of the meat matrix.

"Umass oregano," the clonal line of oregano developed in this research, provides the potential end user a consistent source of antimicrobial activity. While this line was tested against commercially available oregano and results were shown to be similar in inhibition against *L.m.*, the Umass clonal line is likely to provide consistency not found in commercially available products.

"The results of this study are extremely promising for the ready-to-eat meat and poultry industry – and other sectors of the food industry that are seeking to control *L.m.* through the use of natural ingredients," according to AMI Foundation President James H. Hodges. University of Massachusetts researchers have developed a highly consistent and reliable natural source of antimicrobial activity for further study and evaluation.

Lactic Acid Bacteria

Continued from page 1

F for 28 days. Substantial reduction in the growth of *L.m.* occurred in nine of the isolates at 99 degrees F, Two at 59 degrees F and 46 degrees F and three at 39 degrees F.

The nine inhibitory isolates were identified as *Lactococcus lactis* subsp. *lactis* C-1-92, *Enterococcus durans* and *Lactobacillus plantarum*. The anti-*L.m.* properties of these isolates were determined in biofilms of *L.m.* on stainless steel coupons at 99, 59, 46 and 39 degrees F. Use of *L. lactis* subsp. *lactis* C-1-92 resulted in a more than 5 log₁₀ *L.m.* CFU/cm² growth inhibition to an undetectable level at 99 degrees F for 24 hours. At 39 and 46 degrees F, three isolates (*L. lactis* subsp. *lactis* C-1-92, *E. durans* and *L. plantarum*) produced a greater than 4 log₁₀ growth inhibition for 35 days. These three bacterial isolates appear to control *L.m.* through competitive exclusion in biofilms at temperatures of 39, 46 and 99 degrees F.

The *L. lactis* subsp. *lactis* C-1-92 strain produces nisin A and nisin B, which are inhibitory to *L.m.* The isolate did not grow at 39 degrees F but apparently produced anti-listerial metabolites at this temperature to keep *L.m.* populations on biofilms below the detectable level.

Two other isolates, *E. durans* 141-1 and 152 also proved effective in controlling *L.m.* in biofilms. *Enterococci* are sometimes used as starter cultures for meat fermentations when acid production is of primary importance. The *E. durans* isolates can grow at refrigeration temperatures and also have antagonistic activity toward *L.m.* under refrigeration conditions. These particular strains would be useful in food processing locations that require a low temperature environment such as a ready-to-eat processing plant, the study concludes.

Lactic acid bacteria and their metabolites have been well-documented for their antimicrobial activity against *L.m.*, but their application in the food industry has been limited due to costs, variable effectiveness, restrictive growth requirements and potential for spoilage of foods.

The lactic acid bacteria isolated for this study in biofilms formed in floor drains would have to adapt to the environmental conditions that occur in food processing facilities. Those environmental conditions include being able to grow or compete in a wide range of temperatures and forming a biofilm that would enable attachment to equipment and drain surfaces.

"Selected lactic acid bacteria isolated in this study appear to be promising candidates for control of *L.m.* in biofilms in food processing facilities," Doyle concluded.

"Reducing and ultimately eliminating *Listeria* on ready-to-eat meat and poultry products is one of the top priorities for the AMI Foundation and meat and poultry companies that support our research efforts," said AMIF Vice President of Scientific Affairs Randall D. Huffman, Ph.D. "Dr. Doyle's research is another potential weapon in the war on pathogens."

Acidified Calcium Sulfate

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each batch of frankfurters into inoculated (four strain *L.m.* cocktail) and noninoculated groups. Researchers applied a *L.m.* mixture to the surface of 21 franks per treatment to give a final concentration of about 10⁸ CFU/ml, or about 10 million microorganisms per gram.

Keeton says a ready-to-eat processing facility would not expect to find such high levels of *L.m.* on the product, but "if you're going to get protection, you should get it at this point."

An hour after being treated with the *L.m.* mixtures, the frankfurters were submerged for 30 seconds in dips containing saline solution (control); acidified calcium sulfate (Safe₂O); 3.3 percent potassium lactate; or 3.4 percent lactic acid. The frankfurters were then vacuum packaged, stored under refrigeration (40 degrees F) and evaluated at two-week intervals over a 12-week period. The 12-week period represents the optimal shelf-life a grocery or retail store would expect frankfurters to have, Keeton said.

Safe₂O and potassium lactate effectively reduced *L.m.* counts on the surface of the frankfurters. However, only the Safe₂O was found to have a residual listericidal and listeristatic effect on the product during the storage period.

"Safe₂O offers the opportunity to decontaminate products that might become contaminated and offer a measure of safety after they have been packaged for some period of time," Keeton said.

Research already had shown that adding ingredients such as sodium lactate and sodium diacetate created microbiological "hurdles" to organisms such as *Listeria*, Keeton said. But these were not considered entirely effective against the regrowth of the organism.

The research has been well-received, according to Keeton. The acidified calcium sulfate could give meat processors another method of intervention to increase the safety of their products, Keeton said, and several already want to test acidified calcium sulfate on their own products to see how effective it is.

Ongoing Research - *Listeria monocytogenes*

<u>Investigator</u>	<u>Institution</u>	<u>Project Title</u>
Harshavardhan Thippareddi	Kansas State University	Control of <i>Listeria monocytogenes</i> in Ready-to-Eat Meats Using Cetyl Pyridinium Chloride (CPC) and Shelf Life Extension of RTE Meats Treated with CPC
Jeffrey Kornacki	University of Georgia	Recovery, Development and Validation of Appropriate Surrogate Microorganisms in Meat and Poultry Emulsions for In-plant Critical Control Point Validation Studies
Jeffrey Kornacki	University of Georgia	The Role of Aerosols in Transmission of Microorganisms (including <i>Listeria</i>) to Ready-to-Eat Meat/Poultry Products
Ferencz Denes	University of Wisconsin -Madison	Plasma-Enhanced Disinfection of Surfaces, Air And Water in Ready-To-Eat (RTE) Meat and Poultry Processing Environments
Robert Vinopal, Dick Jadamec	University of Connecticut	Development of Ion Mobility Spectrometry (IMS) Applications for <i>Listeria</i> Detection and Monitoring In-Plant Food Processing Plants

Ongoing Research - *E. coli* O157:H7

<u>Investigator</u>	<u>Institution</u>	<u>Project Title</u>
Andrew Benson	University of Nebraska	Distribution of Virulent and Avirulent Subclones of <i>E. coli</i> O157:H7 in the U.S.
Dale Hancock	Washington State University	Evaluation of Efficacy of a Bacteriophage System in Preventing or Modulating <i>E. coli</i> O157:H7 Infection of Cattle
Alison O'Brien	Uniformed Services University of the Health Sciences	<i>E. coli</i> O157:H7 Intimin Expressed by Transgenic Plant Cells as a Candidate Oral Vaccine for Cattle
Michael Doyle	University of Georgia	Methods to Control <i>E. coli</i> O157:H7 in Drinking Water for Cattle
Chobi DebRoy	Pennsylvania State University	Competitive Exclusion of <i>Escherichia coli</i> O157 using Non Pathogenic Colicin Producing <i>Escherichia coli</i> Strains
Charles Kaspar	University of Wisconsin - Madison	The Use of Egg Yolk Anti-O157:H7 Immunoglobulin to Clear <i>E. coli</i> O157:H7 from the Intestinal Tracts of Cattle

To view the status reports for these projects, visit www.amif.org.

Biofilm Research Yields Understanding of *Listeria* Reduction Methods

Biofilm formation was evaluated and strategies were developed to reduce the potential for *Listeria monocytogenes* (*L.m.*) attachment and survival on surfaces encountered in ready-to-eat meat processing environments in an AMIF Foundation-funded study conducted by researcher Amy C. Lee Wong at the University of Wisconsin-Madison.

The most promising finding was that stainless steel surfaces plasma-modified with 12-crown-4 ether can reduce biofilm formation without altering the ability to clean the surface. This technology can be applied to other types of surfaces.

These findings on plasma modifications have led to a follow-up study at the University of Wisconsin, funded by AMIF, exploring the plasma modification of surfaces as an intervention step to prevent biofilms.

L.m. is a unique bacterial pathogen that has the ability to survive and thrive in moist, refrigerated environments. One mechanism that is crucial to *L.m.* survival is its ability to form biofilms on surfaces that confer resistance to detergents and sanitizers.

The specific objectives of the project were to determine the effect of RTE products and fat residues on biofilm formation by *L.m.* and survival of biofilm cells on materials used for equipment and floors and to evaluate the efficacy of detergents and sanitizers on these *L.m.* biofilms.

Researchers drew the following conclusions:

- *L.m.* can develop on biofilms in a low nutrient medium at 50 degrees F on all the surfaces tested.
- Small amounts of meat extract, hot dog or fat residue reduced biofilm formation initially; however, on prolonged incubation, the biofilm numbers increase.
- Biofilms of *L.m.* can survive storage at 39 or 50 degrees F for at least five days. Presence of hot dog or fat residues enhances survival of biofilm cells on storage.
- Sodium lactate or sodium diacetate does not significantly affect biofilm formation.
- Both detergents tested are effective in removing or inactivating biofilm bacteria; application of a sanitizer further reduces the biofilm numbers, with hypochlorite more effective than the peracid sanitizer.
- Cleaning efficacy depends on the materials on which biofilms are developed; biofilms developed on the brick and conveyor materials are the most resistant to cleaning.
- Biofilm formation and survival of *L. innocua* and *L. ivanovii* are similar to *L. monocytogenes*.

“This research has improved our knowledge of biofilm formation and will help enhance efforts to eliminate *L.m.* from the ready-to-eat processing environment,” said AMIF Vice President of Scientific Affairs Randall D. Huffman, Ph.D.

AMIF Hosted BSE Roundtable Discussion in December

Less than one percent of all facilities handling materials prohibited in ruminant feed have had violations significant enough to warrant FDA enforcement actions, according to Dr. Steve Sundlof, Director of FDA’s Center for Veterinary Medicine. Sundlof updated industry stakeholders at a BSE Roundtable hosted by AMIF in Washington D.C. last month.

This compliance rate, when evaluated by the BSE Risk Assessment Model developed by Harvard University, showed the disease would rapidly die out should it occur in the U.S. The agency has conducted more than 17,000 inspections of feed mills, ingredient handlers and rendering facilities.

FDA also is requesting public comments on potential changes to the current animal feed regulations that are designed to prevent the spread and amplification of the disease if it were to be introduced into the U. S. The Advanced Notice of Proposed Rulemaking (ANPR) published Nov. 6, 2002, solicits comments on the following five issues: excluding brain and spinal cord from rendered animal products; prohibiting the use of poultry litter in cattle feed; labeling all pet food to prevent feeding to ruminants; requiring dedicated facilities to prevent cross-contamination of prohibited and non-prohibited feed; and eliminating the plate waste exemption. FDA will accept comments until Feb. 4, 2003.

Dr. Lisa Ferguson of USDA’s Animal and Health Inspection Service updated participants on BSE surveillance activities. The agency exceeded its 2002 goal to test 12,500 cattle brains for signs of the disease. APHIS tested almost 20,000 brains, of which 2,800 samples were from dead stock collected on farms. No evidence of BSE has been detected. Ferguson said APHIS plans to solicit public comment on alternatives for disposal of dead stock in the near future.

Sanitary Design Principles Highlighted in One-Day Workshop

The AMI Foundation, together with the Food Processing Machinery Association (FPMA) and the International Association of Food Industry Suppliers (IAFIS), will hold the first annual Sanitary Design Principles Workshop for Ready-To-Eat Processing Equipment on Jan. 21, 2003, at the Hilton Atlanta in Atlanta, GA.

The course is designed to present in detail the 10 principles of sanitary design recently developed by a special AMI Equipment Design Task Force. Processors of ready-to-eat meat and poultry, equipment designers and suppliers serving the industry will benefit from this one-day workshop that will focus on how to put these new principles to work for companies, products and customers.

Plant layout and equipment design are key factors in ensuring the safety of ready-to-eat meat and poultry products. The workshop should help participants answer questions about their own plants such as whether equipment specifications measure up

and are designed for optimum sanitary operation, whether you are prepared to solve sanitation and operation problems immediately to avoid recalls, and whether your equipment is designed to prevent harborage of microbial pathogens.

Representatives from the following companies will present materials at the workshop: Kraft Foods North America, ConAgra Refrigerated Food Companies, Bar-S Foods Co. and Hormel Foods Corporation. Presentations will cover development and application of the principles of cleaning and sanitation in the processing environment, equipment design, quality/safety and the sanitary design checklist tool.

Upcoming AMIF Events

January 21, 2003

Sanitary Design Principles for Ready-To-Eat Processing Equipment

Hilton Atlanta, Atlanta, GA

February 5 - 6, 2003

Implementing *Listeria* Intervention and Control Workshop

Hilton Palacio del Rio, San Antonio, TX

February 27 - 28, 2003

Animal Care and Handling Conference

Hyatt Regency Crown Center, Kansas City, MO

March 23 - 26, 2003

Conference on Worker Safety, Health and Human Resources

Denver Marriott City Center, Denver, CO

April 2 - 3, 2003

Implementing *Listeria* Intervention and Control Workshop

Hilton Milwaukee City Center, Milwaukee, WI

October 27 - 28, 2003

Meat Industry Research Conference

Palmer House Hilton, Chicago, IL

October 29 - November 1, 2003

2003 International Meat, Poultry and Seafood Convention and Exposition (as part of the Worldwide Food Expo)

McCormick Place, Chicago, IL

FDA Bars Feed Containing Material From Animals At Risk or Positive for CWD

Material from deer and elk testing positive or at risk for Chronic Wasting Disease should not be used for animal feed for any animal species, FDA's Center for Veterinary Medicine (CVM) announced Nov. 12, 2002. FDA said that animal feed or feed ingredients currently on the market that use this material should be recalled or removed from the marketplace.

FDA considers the following animals to be "at risk" for CWD: animals from CWD-positive captive herds; free ranging animals from the endemic area in Colorado and Wyoming; deer from the eradication zone in Wisconsin; and deer from any areas designated around any new foci of CWD infection that might be identified through surveillance or hunter harvest testing.

Only deer and elk are known to be susceptible to CWD by natural transmission, according to FDA. However, agency officials believe there is little scientific evidence to show whether CWD is a hazard to humans or non-cervid animals such as cattle and pigs. FDA believes it is prudent that CWD-positive or at risk deer and elk not be used in animal feed.

FDA plans to issue a Compliance Policy Guide on this issue at a later date, according to the release.

Cargill Inc. Microbiologist William Sperber Honored With First Annual Scientific Achievement Award

William Sperber, Ph.D., senior corporate microbiologist at Cargill, Inc., was honored with the AMI Foundation's First Annual Scientific Achievement Award. The award was presented at the AMI Annual Convention and Innovation Showcase in New Orleans, LA in October.

In presenting the award, AMI's Immediate Past Chairman Phil Clemens, chairman and CEO of Hatfield Quality Meats, said that AMI's programs and policies have promoted safer foods through research, which prompted the Institute to create a new award called the AMI Foundation Scientific Achievement Award. Each year, the award will recognize an individual for outstanding contributions to the quality and safety of meat and poultry.

During his distinguished career, Sperber has served on numerous worldwide food safety initiatives, including the World Health Organization Expert Consultation on Risk Assessment, the International Life Sciences Institute Listeria Expert Working Group, the National Advisory Committee on Microbiological Criteria for Foods and the U.S. delegation to the UN Codex Committee.

Sperber's reputation for scientific excellence has led to invitations to lecture before the National Academy of Sciences and the White House Office of Science & Technology and the National Toxicology Forum. He also has developed several microbiological procedures in use today and is the co-developer of the Fraser broth for the rapid screening of *Listeria monocytogenes*.

AMI Foundation Hosts 2003 Conference on Worker Safety, Health and Human Resources March 23 – 25, 2003, in Denver

The AMI Foundation (AMIF) will host the 2003 Conference on Worker Safety, Health and Human Resources March 23 – 25, 2003, at the Denver Marriott City Center in Denver. This event continues as the premier meat industry occupational safety conference, now in its 15th consecutive year.

Industry legend William (Bill) Geoppinger, retiring chief executive officer of Sara Lee Foods will share his insights from more than 40 years in the food industry during the keynote address on Monday, March 24, 2003. Other special features for the 2003 conference include a "Training in the 21st Century" certificate course, a special session, "An Inside Look at Ground Zero – Extreme Safety," and the annual worker safety awards banquet.

"Training in the 21st Century" is a comprehensive four-session course that will review development of orientation programs, enhanced training activities, establishing a sound process for updating training programs, and assuring that corporate culture is communicated through training activities.

Neil Wasser, partner at Constangy, Brooks & Smith, headlines the Tuesday morning (March 25, 2003) general session with his annual review and analysis of OSHA. The "2002 OSHA Review and 2003 Expectations" will provide a seasoned look at key agency activities and directions.

Monday and Tuesday courses and update sessions will run throughout both days giving attendees a chance to maximize their educational opportunities. In addition to the two general sessions, there are 16 unique, one-hour workshop course offerings available.

The conference concludes with the 2003 Safety

Awards Banquet where plants with exceptional worker safety records will be recognized and saluted. The "best of the best" in meat industry workplace safety will be feted at the banquet.

The three-day event is \$585 for AMI members, \$525 per person for groups of 3 or more from the same member company, and \$825 for non-members. For more information, visit the Meeting section of www.MeatAMI.com. For hotel reservations, call the Denver Marriott City Center directly at 303/297-1300 before March 1, 2003, to secure room reservations. After this date, rooms will be available on a space available basis only. Mention AMI to receive the special discounted rate of \$159 per night for a single or double occupancy room.

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