



November 3, 2006

MEMORANDUM FOR AMI SCIENTIFIC AFFAIRS ADVISORY COMMITTEE

FROM: RANDY HUFFMAN, DANE BERNARD, TRACIE SHEEHAN

SUBJECT: MINUTES – OCTOBER 3, 2006 MEETING, HOLLYWOOD FL

COMMITTEE MEMBERS IN ATTENDANCE:

Dane Bernard, Keystone Foods	Phil Minerich, Hormel Foods Corp.
Wafa Birbari, Sara Lee Corp.	Alan Oser, Hatfield Quality Meats
Peter Bodnaruk, Ecolab	Steve Quickert, Kraft / Oscar Mayer
Michael Bradley, Premium Standard Farms	Tracie Sheehan, Sara Lee Corp.
John Butts, Land O’Frost	Dennis Stifler, Coleman Natural Meats
Bill Christenson, Ed Miniat Inc.	Scott Stillwell, Tyson Foods, Inc.
Rick Fahle, Fairbank Farms	Haley Walls, Purac America
Tim Freier, Cargill	Patricia Wester, SGS
Margaret Hardin, Boar’s Head Provisions	Kurt Westmoreland, Silliker, Inc
Kevin Ladwig, Johnsonville Sausage, Inc.	

GUESTS (in order of attendance during the meeting):

Steve Larsen, National Pork Board  
Mohammad Koohmaraie, USDA - ARS

AMI STAFF:

Jim Hodges  
Randy Huffman  
Skip Seward

The AMI Scientific Affairs Advisory Committee (SAC) met on October 3, 2006, in Hollywood Florida, the day prior to the Annual Meat Industry Research Conference, and the AMI Innovation Showcase. The materials from the meeting have been posted as a PDF file on [www.meatami.com](http://www.meatami.com) with “members only” security access. The file can be located under the “committee resources” section, under the Scientific Affairs section.

Chairman Dane Bernard opened the meeting with a welcome and an overview of the agenda, which was accepted. The minutes from the March 2006 SAC meeting were accepted as submitted.

## **Lm Intervention updates**

### **Status of FSIS approval of Benzoate/ Propionate/Sorbate**

Skip Seward provided a status update on FSIS approval for the use of the antimycotics, sorbate, benzoate and propionate in RTE meat products. Industry requested the approval for use of low levels of these ingredients in RTE products for the purpose of controlling *Listeria* growth. Several research projects have demonstrated the effectiveness of these compounds as anti-Listerial agents, including recent AMIF-funded research conducted at the University of Wisconsin. The request was made through the FSIS New Technology Office, and AMI has provided data on efficacy and safety to the agency. On June 25, Doug Palo of FSIS –NTO provided a draft of waiver of regulations guidelines that could allow a company to proceed with in-plant testing. The draft waiver guidelines included requirements for establishments to provide protocol and procedures for the use, labeling, use-by or sell-by package dating, and validation and verification information concerning the use. Subsequently, FSIS posed 3 additional questions to AMI regarding the toxicity and potential for formation of compounds of “unknown” toxicity as well as potential adverse reactions that were indicated in a 1980 ARS study on sorbate in bacon. AMI along with Dr. Kathy Glass of University of Wisconsin, responded to these questions, and we are currently awaiting further guidance from FSIS –NTO.

### **Status of FDA – FSIS approval of Bacteriophage**

Randy Huffman provided an overview of the recent food additive petition approval by FDA for the use of bacteriophage as a *Listeria* intervention in RTE foods including RTE meat and poultry products. AMI staff met with Intralytics CEO for a briefing on the company, its technology and their plans for making the product available. AMI staff has also met with a Salt Lake City based firm, Omnilytics to learn of their bacteriophage applications in the produce industry and interest in targeting *E. coli* O157 in cattle. That briefing led to an invitation for the company CEO of Omnilytics to speak at the MIRC. Both firms indicate that the technology has great promise; however, it seemed apparent to AMI staff that significant work on the consumer education front must be accomplished, and based upon the technical data provided to AMI; significantly more work is needed in the specific applications of *Listeria*-specific phage to RTE products as well as O157-specific phage in cattle. The SAC had significant discussion concerning the approval announcement and several firms pointed out the significant amount of customer and consumer feedback, mostly negative, that was received after the FDA announcement and subsequent media coverage.

### **Octi-gon Update - Ecolab**

Peter Bodnaruk and Tim Freier provided a brief update on the status of the Octi-gon technology as an effective *Listeria* intervention in certain applications. The technology is based upon surface application determined by the surface area of the product. Organoleptic effects have been minimal and it can be treated as a processing aid.

### **Retail Deli Task Force on Lm**

Huffman provided an update on the actions of the joint AMI FMI task force established after the March 2006 SAC meeting. The group has met via conference call and several actions have been taken. At the request of FMI members a sample blinding protocol was developed by Silliker and reviewed by legal counsel. This procedure appears to be acceptable to all parties. The group had discussions concerning sample site selection and FMI was to provide an alternative set of sampling locations than what was proposed. The release of the Draughon study at the Conference on Food Protection and the IAFP meeting in August was generally well-received as Dr. Draughon made a

point to emphasize how the *Lm* prevalence rates had declined when these data were compared to the previous NFPA – Gombas et al. study.

The SAC had significant discussion regarding the need to conduct the retail study, in light of the Draughon study results, as well as the on-going Cornell and NYS Ag and Markets retail deli survey. There was agreement that there continues to be a need for seeking solutions to drive prevalence levels down in retail deli processing areas, and the AMI SAC wants to serve as a technical resource to our retail partners. It was agreed that the Silliker project may still have merit and funding for the project should be pursued again through the AMIF research funding process. The following resolution was agreed upon.

*AMI SAC will continue to work jointly with the FMI technical and regulatory committee through the Joint Listeria Task Force to identify opportunities to work together on the challenge of Listeria control. The proposed retail deli research project should be revisited in light of the Draughon and the Cornell studies and AMI should continue to seek input from the retail community and FMI on how best to proceed with the proposed research protocol.*

### **FSIS response to AMI comments on *Listeria* Risk Assessment**

Huffman provided a brief overview of the FSIS response to AMI comments submitted on the FSIS *Listeria* Risk Assessment. The response to comments is posted on the FSIS website, but generally the agency was dismissive of the AMI feedback and did not directly address several of the data submissions that were included in the Exponent review. It is unclear what purpose the risk assessment is serving at FSIS, other than the need to conduct a risk assessment to satisfy OMB requirements when a new rule is proposed. The committee suggested that AMI should determine if Exponent would have an interest in speaking in public forums regarding the work they did on behalf of AMIF and possibly publishing the FSIS *Listeria* risk assessment critique. AMI will work with Exponent to determine if there are possible avenues to make the review a more public document to ensure the review and suggestions are considered as part of future FSIS work in this area.

### **NACMCF Report on *Campylobacter* Methods**

Wafa Birbari provided a presentation to the committee on the National Advisory Committee report on *Campylobacter* methodology. The PowerPoint has been included in the SAC briefing materials.

### **NAS Dioxin Review**

Huffman provided an update on the release of the National Academy of Sciences review of the EPA Dioxin Reassessment. A detailed point by point critique and assessment of the charge questions posed to the NAS committee was provided in the SAC briefing materials. AMI has been working jointly with the Food Industry Dioxin Working group regarding the release of the report. The release generated very limited media interest at the time of the release. The NAS report is likely to lead to EPA going back to the drawing board on some aspects of the risk assessment, creating further delay in its finalization.

### **IARC update and Discussion of Nitrite Alternative Research**

Andy Milkowski provided an update on the International Agency for Research on Cancer (IARC) report on ingested nitrites and nitrates. A full report was given during the preceding day by Jim Coughlin and Andy during the MIRC, and the Lancet publication related to the IARC decision were provided in the SAC briefing materials. The IARC decision that ingested nitrite, under conditions that result in endogenous nitrosation is probably carcinogenic in humans, could have significant impact on the future of nitrite as a food ingredient. In light of this potential challenge, Andy proposed to the group that consideration should be given to AMIF funding of curing alternatives research program. Andy provided two examples of recent research publications from the medical community related to myoglobin / muscle biochemistry. It was suggested that the meat science field may be able to draw upon work being done in the field of medical research. It was generally agreed that this may be an area worthy of pursuit. It was discussed that this type of research could generally fall within the realm of food safety research and may be an appropriate topic under the current AMIF research priorities. Andy agreed to develop a concept paper to more fully develop and outline what types of research may need to be pursued to yield tangible results.

### **WCRF update and discussion of Nutrition and Health Roundtable**

Huffman and Jim Hodges led a discussion about the pending release of the World Cancer Research Fund report, due out in November 2007. It is expected that this report will result in negative messages relative to red and processed meat consumption. AMI has been working jointly with the International Meat Secretariat Human Health and Nutrition committee in preparation for this report for several years. One idea that has been proposed is the formation of a North American roundtable to discuss the science and identify leading experts in the field of meat and cancer research that are willing to discuss the benefits of meat in a balanced diet. AMI has been working closely with National Pork Board and National Cattlemen's Beef Association on this concept. The SAC had good discussion on the issue and there was support for the following resolution:

*The SAC recognized the importance of the WCRF release to long-term consumer confidence in meat safety. The committee encouraged AMI staff to conduct a North American Roundtable on Meat and Cancer with counterparts in Beef and Pork commodity groups. Funding for such an endeavor should be sought from the AMI Executive committee as necessary.*

### **National Pork Board Take Care Program and Antibiotic Resistance**

Steve Larsen from the National Pork Board provided a presentation on the recently developed on-farm outreach program to producers to address the prudent use of antibiotics in swine production. A copy of the presentation is provided in the SAC briefing materials and companies seeking further information are encourage to contact Steve at the NPB.

### **MDR –Salmonella update**

Freier provided an overview of his concerns related to the methods that FSIS is using for MDR Salmonella testing, and as part of the NACMCF, Tim states that the committee has been charged with evaluating these methods. The link between serotypes causing human disease, and those commonly found in various meat samples is not well established and attribution remains a major challenge. Another primary concern is that the industry has no way of reliably controlling for specific *Salmonella* subtypes, since serotyping costs are significant (~\$120/sample). No resolution

was proposed during this discussion, but it was considered a topic that the SAC should keep close tabs on. There may be components of this issue that require research and could become part of the AMIF research priorities.

### **Mycobacterium paratuberculosis update**

A PowerPoint presentation given by Mark Klaussen of the Canadian Beef Information Center during the 2005 Beef Safety Summit was provided in the SAC Briefing pdf as background. Freier provided an overview of the NACMCF review of MAP, including the frequency of the pathogen in various foods, the current testing methodologies, and how it is affected by processing techniques. He pointed out that the organism is very difficult to work with and detection times are very long. Using DNA based methods, MAP has been found in approximately 30% of pasteurized milk samples. MAP is the principle cause of Johne's disease in cattle, and there is a hypothesis that is related to Chrones disease in humans, however, this relationship is still unclear. About 1 million people in the US are affected by Chrones disease.

### **Update on CDC Publication on *E. coli* O157 Illness Decline**

AMI continues to collaborate with CDC representatives as they work to prepare a publication for Emerging and Infectious Diseases journal describing the *E. coli* O157 illness declines and the steps that industry has taken to control the pathogen. Huffman provided an update on the AMI contribution to the project. The committee suggested that AMI make certain that CDC describes the actions of industry in the proper light. It was pointed out that we should make certain that the publication does not simply state that product testing and diversion of product positives was the cause of some of the illness decline, but to stress that the actions that the industry had to take, as a result of the test and hold programs was what has led to enhanced safety of beef products. The emphasis should be on how testing led to the need for enhanced and improved control techniques, and not on the mere removal of certain positive products from the marketplace. It was agreed that these points will be made with CDC representatives.

Huffman also made the committee aware of a draft of a recently funded AMIF project at UW – FRI describing all food and non-food related outbreaks of *E. coli* O157 since its emergence in 1982. The draft report was provided in the SAC briefing pdf.

### **Update on USDA –ARS research on *E. coli* O157**

Dr. Mohammad Koohmaraie joined the committee to provide a preliminary review of new data that has been collected at the US Meat Animal Research center. He reviewed data on *Salmonella* prevalence in the Multi-region survey that his research group has conducted over the last several years. He specifically shared preliminary data on the prevalence of non-O157 STEC and MDR *Salmonella* strains. Dr. Koohmaraie shared preliminary data showing that lairage at beef slaughter may be responsible for re-contamination of cattle arriving at packing plants. Strain typing of cattle isolates before arrival, and after arrival, indicate that the holding pens at slaughter are a potential contributing factor to hide contamination.

### **Transition of SAC Chairmanship**

Dane Bernard announced to the SAC that Tracie Sheehan would be the next AMI SAC chair. Dane served in the capacity for approximately 2 years and his contributions were recognized. Tracie

Sheehan thanked the group for their support and had a brief discussion of plans for the spring meeting of the SAC. No final decision was made. Once a date is established it will be communicated to the committee via email.

With no further business, the meeting was adjourned.

cc: J. Patrick Boyle  
Jim Hodges