

The Food Safety Consortium Newsletter



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To Serve as Technical Resource for Food Safety NAFS Plans New Structure for Research Centers

The National Alliance for Food Safety has set up a structure for accommodating research efforts by its member institutions. The NAFS Board of Directors approved a plan that establishes 12 Virtual Centers of Excellence, each geared either to a commodity or an academic discipline of food safety.

The board, during its annual meeting in November at Texas A&M University, also decided to establish a task force of development and administrative personnel that would seek new opportunities for funding NAFS.

“The task force will visit officials in Washington and will define a continuing agenda for food safety,” said Elsa Murano of Texas A&M University, chair of the NAFS board.

The board also learned that the USDA Agricultural Research Service will have \$1 million available for fiscal year 2001-02 to NAFS researchers to be

awarded through evaluation of competitive proposals. This is similar to the current round of funding that is supporting nine projects researching *E. coli* and *Listeria*. Those projects consist of researchers from NAFS institutions collaborating with ARS researchers. Requests for proposals for the projects have been issued from ARS.

The organization of NAFS into centers of excellence will work this way: Six centers will be oriented toward commodities — beef, pork, poultry, dairy, plant products and seafood/aquaculture. Six other centers will be oriented toward particular disciplines — food safety education and

outreach, risk analysis and policy, food toxicology, detection and typing methods, microbial physiology and ecology, and pathogen control.

The board decided that scientists at NAFS institutions would choose which centers to join and that each center’s personnel would then choose a university from within their ranks to serve as the center’s lead institution for two years. That university’s representatives would be responsible for gaining their home institution’s administrative support. The center’s lead institution would be responsible for ensuring that the center produces at least one research

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Elsa Murano, NAFS board chair, addresses annual meeting at Texas A&M.

KSU Survey Shows Education Boosts Irradiation Support

As industry and retailers consider whether to offer irradiation of meat products, the attitude of consumers is a key element in determining how widespread the availability of such products will become. Recent surveys indicate that most consumers have a positive attitude toward irradiation, but information about the process is vital in shaping those views.

Surveys by Food Safety Consortium

researchers at Kansas State University showed that consumers tended to want to buy irradiated meat once they had been presented with positive aspects of irradiation that refuted negative claims about it.

“In the survey, we do provide them with some information about irradiation,” said Sean Fox of the KSU economics faculty. “But the more education you get to them, the more favorable their attitude. Just giving them

a pamphlet, while having a positive effect, is not going to convince 100 percent of the people that this is a good thing.”

The surveys of 96 consumers in Kansas tested attitudes about irradiation by first providing science-based information from the U.S. Department of Agriculture. “We asked them to make a choice between buying irradiated packages of chicken breasts and the

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NAFS Plans New Structure... continued

proposal a year that involves collaboration of at least three members of the center. A lead institution that fails to accomplish the objectives after one year will lose its status and another institution will be elected to replace it.

In one year, the NAFS board will revisit the plan to determine how it is working.

Each center will be allotted \$5,000 from NAFS to be used in meeting expenses associated with collaborating among the center's institutions and forming research project proposals.

Other than the lead institution, the scientists' home institutions will be designated as either primary or secondary members of a center. Primary institutions are those that wish to engage in a particular center's work as their primary research focus and will elect their center's lead institution. Secondary institutions will be those whose work in a center comprise their secondary focus.

Institutions may be primary members of no more than two centers (one

The new plans for NAFS will resurrect its visibility and would improve food safety by coordinating research across regions and disciplines.



NAFS board at the George Bush Presidential Library Center at Texas A&M University.

commodity-based and one discipline-oriented). Institutions may be secondary members of as many centers as they choose.

"Each university delegation can reconsider its primary membership designations after completing any two-year term," Murano said. "In this way, institutions can have input as primary members of multiple centers over an extended period of time."

Throughout the year, the NAFS Operations Committee will oversee the activities of each center's lead institution and monitor their compliance with the requirements. The committee will provide official letters of support for projects submitted through each center

and will seek to establish research partnerships with other federal agencies.

Murano said the new plans for NAFS would resurrect its visibility and would improve food safety by coordinating research across regions and disciplines. "NAFS will serve as a technical resource to support the national food safety research agenda, and will work toward improving funding for that agenda," she said.

The board also elected members of the Operations Committee for four-year terms that will begin in June 2001. Les Crawford of Georgetown University was elected to the administrator's position and Jim Dickson of Iowa State University was elected to the scientist's position. ■

KSU Survey... continued

typical non-irradiated chicken," Fox said. "With that baseline information, 80 percent made the choice for irradiated chicken and they actually purchased it."

Next, the survey team provided the consumers some negative information about irradiation from Food and Water, Inc., an advocacy group that opposes irradiation. The consumers were shown the Food and Water statement that claimed irradiation may be linked to cancer and birth defects, causes lower vitamin levels, eliminates the smell emitted by spoiling meat and poses environmental risk because of the use

of radioactive materials.

Upon reading this material, the consumers were asked if they would buy irradiated chicken if they could repeat their previous decision. This time, the segment choosing irradiated chicken fell from 80 to 43 percent.

Then the survey team showed consumers a video from the ABC News program "20/20" in which protests against irradiation were investigated. The reporter concluded that food irradiation was safe. The survey monitor then reviewed the Food and Water claims about irradiation with the consumers and noted that irradiated foods never become radioactive, no

studies have ever linked irradiation to cancer or birth defects, vitamin losses from irradiation were insignificant and that irradiation does not eliminate the warning signs of spoiling meat.

After hearing that information, the consumers were asked a third time

The survey indicated "that many consumers want the extra degree of protection from foodborne bacteria that irradiation can provide," Fox said.

whether they would buy irradiated chicken. The segment that would do so rose to 82 percent, with 47 percent willing to pay at least a 10 percent higher price for irradiated chicken.

“After we gave people a choice again, the percentage now choosing irradiated chicken went back up,” Fox said. “All the people who were persuaded not to buy based on Food and Water’s stance went back and chose irradiated once they saw that the claims were groundless.”

In other surveys, the KSU team asked consumers’ preferences between irradiation and other methods geared toward reducing pathogens on meats in processing plants.

The consumers were told that ground beef treated by irradiation would be guaranteed not to contain *E. coli* bacteria, while carcass pasteurization would kill 99 percent of *E. coli*. When asked to choose between irradiated and carcass-pasteurized products, majorities ranging from 54 to 77 percent preferred irradiation.

“This indicates that many consumers want the extra degree of protection from foodborne bacteria that irradiation can provide,” Fox said.

The consumers were also asked if they would be willing to pay more for ground beef from carcasses treated by either steam pasteurization or hot water than for untreated ground beef. In various groups, those who were not willing to pay a premium for the different varieties of treated ground beef ranged from 35 to 41 percent.

The survey team was not surprised to learn that the level of consumers not willing to pay extra was that large. The responses may reflect a protest mode more than a prediction of their actual practice.

“They’re faced with a choice in a supermarket between a product that they know is safer than a regular product and they’re priced differently,” Fox said. “But in many cases, people who indicate they would not pay extra probably would pay something for that extra margin of safety. They’re using their response to tell us that they think all food should be safe anyway and that the consumer should not be responsible for paying more for it.” ■

HACCP Raises Costs Along With Standards

The nation’s small meat and poultry processing plants were brought under new federal inspection rules in January 2000, raising the question of whether they would be able to afford the costs associated with the new standards. It’s still too soon for any definitive studies to determine how well they will do, but some projections show that they might be better off than some would expect.

The regulations mandate that processing plants must design and implement Hazard Analysis and Critical Control Point (HACCP) systems specific to their procedures. HACCP

systems are science-based and involve intervention at various points during processing to reduce or eliminate potential for pathogenic bacteria in meat and poultry.

Food Safety Consortium researchers Helen Jensen of Iowa State University and Laurian Unnevehr of the University of Illinois examined data on overall HACCP costs in the larger plants that have been implementing the system in recent years. They found that in pork processing plants, HACCP technologies added costs in a range of 3 to 20 cents per carcass, with some technologies raising the costs by as much as 47 cents a carcass. Overall, the cost increases are about 1 to 2 percent of the total processing costs.

Small plants might be viewed as having a more difficult time meeting the extra costs than their larger counterparts. But the smaller plants have their own advantages.

“The small plants are probably facing a different situation because of the structure of their costs,” said Jensen, an

Iowa State economics professor. “While some costs are certainly likely to be higher for small plants, the fact that they have fewer people to train and that they might have less turnover may mean that some of the costs are lower.”

Some small plants process more than one kind of animal, thus posing the potential for cross-species contamination. They may need to move to single-species processing and meet the more restrictive food safety controls. Large plants, the object of the FSC study, have some inherent advantages of their own in absorbing costs. In larger plants the costs can be spread over more of the product.

“The large plants can benefit from cost savings in some of their HACCP-related costs,” Jensen said. “For example, they may be able to offer their own HACCP training. Also, the costs of machines or capital equipment probably vary by the scale of the plant and would be cheaper per unit for the larger plants.”

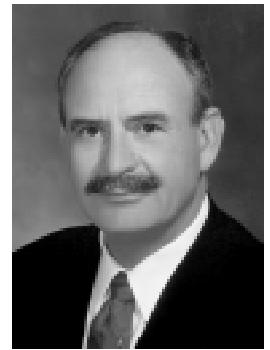
The costs of implementing HACCP in plants takes various forms. Training, monitoring, keeping records and testing have formed one component of costs. Another component is the cost of specific interventions to reduce pathogens. Relatively little is known about the latter set of costs “in part because there is uncertainty regarding how much new technology will be needed to meet specific pathogen reduction targets,” Jensen said.

Increased costs may be offset by the benefits of pathogen reduction — such as extended shelf life, access to new export markets, retention of customers and reduced product liability — but

“Achieving efficiency in meeting the new regulation represents a significant challenge to firms.”

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Report from the Coordinator



Charles J. Scifres

Changes are in the works all around. A new president has taken office and a new Congress is in place, developments that will determine the support that food safety research efforts will receive at the federal level.

Change is at work closer to home. As explained elsewhere in this newsletter, the National Alliance for Food Safety has established a structure for organizing its research activities and seeking funding support. Meanwhile, as details of that structure are put in place, NAFS scientists prepare once again to submit proposals to the USDA Agricultural Research Service concentrating on *E. coli* and *Listeria* research.

In the Food Safety Consortium, our structure is the same as ever but our continued progress is evident. More investigators are proposing innovative projects for funding by the Consortium. We are reaching out to the world beyond our three member universities as we develop plans for a significant conference on food safety issues as part of our annual meeting later this year at Iowa State University.

The time is right for increased

involvement in public issues. Food safety has raised its public profile in recent years and shows no signs of falling back. The recent *Listeria* episode may lend more urgency to the entire area of research. The Senate Agriculture Committee reviewed national food safety efforts during a hearing last fall and found many questions still on the front burner — whether to have a single federal food safety agency, whether microbial testing in HACCP systems is an effective indicator of safety in processing or enforcement tool and whether HACCP implementation has actually improved food safety.

These questions are still part of the food safety debate in the U.S. The work of investigators with the Food Safety Consortium and other scientific research organizations will be called upon many times to assist policymakers weigh evidence as they make decisions. The major change in the Food Safety Consortium for now is that more is expected of it.

One other change concerns my role as coordinator of the Food Safety Consortium and chair of its Steering Committee. As of January, I left the

University of Arkansas where I served as dean of the Dale Bumpers College of Agricultural, Food and Life Sciences and associate vice president for agriculture-research. I am now at Texas A&M University as associate vice chancellor for agriculture and life sciences. Because the University of Arkansas serves as the administrative headquarters of the FSC, my departure from the campus effectively ends my work with the Consortium.

At this writing, the coordinator/committee chair's position is yet to be filled. But the work of the three universities and the talent within them serve to assure us that the FSC is in good hands for the future. My association with the Food Safety Consortium since 1996 has been a rewarding and enriching experience and I thank all its personnel for their efforts. Best wishes for a future as successful as has been the past. ■

Fung's Formula: 'Just Use More Garlic'

Just as cinnamon is an effective ingredient against *E. coli* O157:H7 in apple juice, garlic performs similarly in ground beef. Daniel Fung of the Food Safety Consortium at Kansas State University has coordinated research that has found the addition of garlic can kill more organisms at a lower temperature than without using the spice.

The addition of 1 percent garlic in ground beef will rid the meat of at least 90 percent of any *E. coli*

O157:H7 present, Fung said. Cooking ground beef without garlic will reduce *E. coli* O157:H7 to undetectable levels by the time the meat's internal temperature reaches 72 degrees C. With garlic, the same result can be accomplished at a temperature of a few degrees lower.

"You get to the temperature and you can kill the pathogen more in the presence of garlic," Fung said.

Garlic's effectiveness also extends to other pathogenic bacteria and in other foods. That helps, Fung said, because

"people love garlic, especially on meat products."

The best part of the findings is that consumers do not need to wait for the patent of a new product or for scientists to spend years exploring the ramifications further. "People should just use more garlic," Fung advised.

The research team includes Erdogan Ceylan, Judith Sabath and Josep Yuste, a postdoctoral student from Spain.

Cinnamon and Preservatives Make a Safer Cider

During one recent Christmas holiday season, Daniel Fung tried some cinnamon in his apple cider and found that he liked the combined flavor. Later, he found that the cinnamon can kill the pathogenic *E. coli* O157:H7 bacteria that can appear in cider.

Fung, a Food Safety Consortium researcher and Kansas State University food science professor, had already studied the benefits of spices against *E. coli* in meat. But there were practical limits.

“We said people would probably not put cinnamon in

their hamburger, but we thought that cinnamon would be a good spice for a liquid drink,” Fung said.

Fung’s team also found effective ways of using cinnamon combined with two preservatives — sodium benzoate and potassium sorbate — to kill pathogens in cider. The two preservatives are used primarily to kill fungi, but studies had already shown that they could kill bacteria.

The tests showed that after combining apple juice with levels of 0.3 percent cinnamon with 0.1 percent of either preservative, *E. coli* in cider was reduced to undetectable levels after three days of incubation. Other tests showed that

adding cinnamon alone or preservatives alone reduced the *E. coli*, but not as effectively as a combination treatment.

“Cinnamon alone gradually reduced the number of *E. coli* O157:H7 and the extent of reduction increased with the concentration of cinnamon in apple juice,” Fung said. “The combination of cinnamon and sodium benzoate showed a better reduction of *E. coli* O157:H7 in apple juice when compared with sodium benzoate alone.”

A similar result occurred when potassium sorbate was substituted for sodium benzoate, although the sodium benzoate was found to be the

more effective of the two preservatives.

Fung’s experiments started with a deliberately high level of contamination to see how effective the cinnamon and preservatives would be. At lower and more realistic levels of contamination, he said, “I suspect we will not find any *E. coli* after one or two days with cinnamon in combination with benzoate or sorbate. That will definitely knock them out completely in the normal contamination range.”

Currently, KSU is

working on a combination of carbonation and cinnamon to reduce *E. coli* O157:H7, with encouraging results, Fung said.

As word of the experiments has spread, Fung has received inquiries about ways to use the treatments. “People have called and asked if they can just use cinnamon with raw nonpasteurized juice. A lot of people do not like pasteurized apple cider because it doesn’t taste good,” he said. “I always say pasteurization would be safer, but pasteurization along with cinnamon gives a combination of better taste and adds another hurdle by using spice to kill pathogens.”

Cinnamon’s ability to kill pathogens can extend to other food products such as cinnamon buns, apple sauce with cinnamon, pies and bakery products. And if cinnamon is effective on as resistant a pathogen as *E. coli* O157:H7, then it should also be potent against *Salmonella* and *Listeria*.

“We’re using *E. coli* O157:H7 as our mock organism,” Fung said. “And there are thousands of spices to experiment with. Possibilities of combinations could be limitless.” ■

“People would probably not put cinnamon in their hamburger, but we thought that cinnamon would be a good spice for a liquid drink.”



Cinnamon’s anti-pathogen qualities make apple juice and cider safer.

Billy Outlines Strategy for Food Safety

This is an excerpt from remarks prepared for delivery by Thomas J. Billy, administrator of the USDA Food Safety and Inspection Service on Dec. 13, 2000, at the public meeting "FSIS: The Next Steps" in Washington.

When FSIS developed its strategy for improving food safety, it recognized that continuous change would be needed to reach the desired food safety goals. While there was a beginning point to our efforts, there could be no end point. In January (2000), we completed the third and final implementation phase of the Pathogen Reduction and HACCP rule. This was a significant milestone, and both industry and government deserve credit for its success. We've made progress in many other areas as well, such as surveillance and risk assessment. This is a good time to reflect on where we go from here.

The final rule on Pathogen Reduction and HACCP has provided an important framework for the significant changes made, and I believe it can guide us as we focus on the next steps as well. For example, our goal remains the same as that stated in the preamble to the final rule back in 1996. To refresh your memory, FSIS stated that its goal is to reduce the risk of foodborne illness associated with the consumption of meat and poultry products to the extent possible. This would be done by ensuring that appropriate and feasible measures are taken at each step in the food production process where hazards can enter and where procedures and technologies exist, or can be developed, to prevent the hazard or reduce the likelihood it will occur. This goal remains relevant.

Although we are now including egg products as a focus of our food safety efforts, we will focus today's discussions on meat and poultry products. ...

While our public health goal and regulatory strategy remain unchanged, we now have the benefit of almost five years of experience in implementing food safety changes. We are in a better place than we were five years ago, and that will help us greatly as we plan for the future.

First, we can build on our accomplishments so far. HACCP is already in place, providing us with the infrastructure to make further improvements. New technologies are being used within plants to reduce pathogens. And we've taken some important steps in addressing hazards from farm-to-table by better involving producers in food safety, for example.

Second, we have more information available to us from a variety of sources to guide us. This includes input from our two advisory committees, various surveys and evaluations on HACCP by internal and external groups, recommendations from internal working groups such as the Workforce of the Future steering committee, and input from our own employees and the public. In addition, we have better surveillance data to help pinpoint areas for improvements and better information on the hazards associated with the products we regulate.

And third, we know it can be done. We've seen significant reductions in *Salmonella* prevalence across product categories, we've seen reductions in



Thomas J. Billy

foodborne illness, and we've seen significant progress in a culture change both in FSIS and industry. Industry and government both deserve credit for these tangible improvements, as well as all stakeholders for their active participation in the public processes we have used.

Before we proceed with more in-depth discussion, I would like to summarize our current thinking. We have two major goals. First, to improve the quality of industry food safety programs, including HACCP. Second, to improve FSIS' own role as a regulatory public health agency.

We've identified two major areas of focus related to these goals. The first area is agency infrastructure and resources. FSIS' infrastructure needs to be improved to allow its workforce to carry out its regulatory responsibilities more effectively and efficiently. This is a very broad area that encompasses the assignment of work, expertise and training, data analysis and decision-making, communication, and workplace environment. ...

Second is the area of risk-based program design and effectiveness. This area includes aspects of our modernization strategy that have been on a slower track due to the intensive focus on HACCP and Pathogen Reduction implementation. They include the HACCP-based Inspection Models Project, and residue control in a HACCP environment, which was the subject of a public meeting on Monday. This area also includes ensuring that FSIS is responsive to food safety problems that arise, examining whether processing inspection can be better designed to focus on risks associated with products and processes, and it includes issues directly related to the Pathogen Reduction and HACCP regulation. ...

In addition to these two major areas,

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"We are in a better place than we were five years ago, and that will help us greatly as we plan for the future."

Daniel Fung, Kansas State, delivered several lectures during the fall. He spoke on “Rapid Methods and Automation in Food Microbiology” during the Food Quality 2000 Conference and Exposition in October in Philadelphia and was chair of food quality at the conference’s Round Table on Rapid Methods Perception and Reality. He spoke on “Effect of Prune Extract on Foodborne Pathogens” at the American Meat Institute convention in October in Las Vegas, Nevada. Fung was the keynote speaker at the University of Wisconsin-River Falls Food Microbiology Symposium in October, where he spoke on “Rapid Methods in Microbiology Review and Prediction.” Also in October, he spoke to the National Association of College and University Food Services in Manhattan, Kansas, on “Chinese Cooking With Fung and Food Safety.”

In November, he was the keynote speaker on “Rapid Methods and Automation in Microbiology: A Review” and “Use of Oxyrase Enzyme in Food Microbiology” at the National Congress Agroindustry in Lima, Peru. He also spoke on “Rapid Methods and Automation in Microbiology: Major Development and Market Trends” at the Merck Scientific Advisory Board meeting in Darmstadt, Germany.

Fung received the Builder Award and the Crystal Award in October from the

Kansas State University College of Agriculture.

Recent articles published by Fung include “Control of Foodborne Pathogens During Sufu Fermentation and Aging” in *CRC Critical Reviews in Food Science and Nutrition*, Vol. 39: 1-27; “Development of a Rapid 5’ Nuclease (Taq Man) Assay for the Detection of Pathogenic Strains of *Yersinia enterocolitica*” in *Applied Environmental Microbiology*, Vol. 66 (9): 4731-4735; “Application of a Double Tube System for Enumeration of *Clostridium tyrobutyricum*” in the *Journal of Rapid Methods and Automation in Microbiology*, Vol. 8 (1): 21-30; “Hands-free ‘Pop-up’ Adhesive Tape Method for Microbial Sampling of Meat Surfaces” in the *Journal of Rapid Methods and Automation in Microbiology*, Vol. 8 (2): 111-139, and “SAS for Food Microbiology: Past, Present and Future” in *BioScience International Newsletter*, Vol. 4 (1): 1-2.

Curtis Kastner, Kansas State, delivered a paper on “Research Laboratory Equipment and Facilities to Address Biological Airborne Particulate Matter Safety Issues” at the Biological Airborne Particulate Matter Workshop in January. Kastner and Kansas State researchers **Donald Kropf, E.A. Boyle, Randall Phebus, Robert Danler,**

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Billy Outlines Strategy... *continued*

three recurring themes will be discussed. The first is the importance of communication within the agency and with the regulated industry and all of our stakeholders. We need to improve the methods we use to communicate, including making better use of new technologies. Second is the agency’s commitment to improving the workplace environment for its employees. Workplace environment

includes issues such as worker safety, quality of work life, and workforce diversity. Third is training and education. FSIS must have a workforce with the knowledge and skills to support its food safety programs. The agency will explore expanding its training and education partnerships with other interested parties, including industry, academia, state and local agriculture and public health agencies, and other Federal agencies. ■

HACCP Raises Costs... *continued*

those can also be difficult to calculate.

Food safety technologies vary in their costs to the pork processor. Hot water and steam pasteurizers are the most expensive because of high energy and capital costs, but the technologies have not been approved for use in the U.S. for hog carcasses. Other interventions such as carcass washes, sanitizing sprays and steam vacuums are less costly.

The costs of these technologies range from 5 cents per carcass for washes at 55 degrees C to 20 cents per carcass for 65 degree C washes. If the most expensive methods of pathogen reduction are combined for optimal treatment, costs would be 47 cents per carcass. When the most expensive treatments are added to the overall total costs of processing a carcass, the extra costs of pathogen reduction treatment amount to 1 to 2 percent of the total.

“In a competitive industry, however, achieving efficiency in meeting the new regulation represents a significant challenge to firms,” according to Jensen’s and Unnevehr’s study.

Irradiation, a technology that was approved for commercial use only recently, is not in wide use yet. Its cost for ground beef is estimated at 2 to 5 cents per pound at the retail level, a relatively high amount. Because of that cost, irradiation would likely be used in combination with other technologies, Jensen said.

“Much experimentation will be necessary,” Jensen and Unnevehr said of the various technologies for reducing pathogens in the processing plants. Some appear to dominate the industry and some will prove to be more cost effective. But it still is not clear what their overall effectiveness will be when applied in the plants. “Industry should evaluate new options carefully and may want to foster more public research to compare and fine-tune technologies.” ■

Food Safety Digest

by Dave Edmark

Americans can feel fortunate that one particular food safety crisis hasn't made it to these shores — the BSE (bovine spongiform encephalopathy) outbreak that has plagued portions of the beef supply in Europe. France, the United Kingdom, Portugal and Switzerland have been affected.

"France's BSE crisis has been deepening and now severe restrictions on French food in their domestic and international markets are progressing at an alarming pace," reported CeresNet of the Georgetown Center for Food and Nutrition Policy. "Sausage casings and other foodstuffs derived from bovine intestinal tracts were disallowed. The third human victim was shown in the final stages of death on French TV against the backdrop of the comment by the Minister of Health, Dominique Gillot, that she expects perhaps as many deaths in France as have occurred in England (84)."

Meanwhile, Britain will continue to import beef from France because a European Union directive prohibits one member state from blocking imports from another member. However, the EU did announce plans for a BSE testing program that began in January.

■ ■ ■

Irradiation, by any other name, might be more appealing to the public. That's apparently the thinking behind efforts to use other terminology such as "cold pasteurization." The Associated Press reported in November that President Clinton signed legislation mandating the Food and Drug Administration to come up with alternative wording that packers of irradiated meat can use on labels.

Christine Bruhn of the University of California-Davis Center for Consumer Research supports the move, noting that many people mistakenly believe that anything irradiated is radioactive. Sen. Tom Harkin of Iowa also supports the idea.

Carol Tucker Foreman, director of the Consumer Federation of America's Food Policy Institute, opposes any new wording on grounds that it "undermines public confidence in a new technology."

■ ■ ■

The Titan Corp. of San Diego has agreed to install its irradiation equipment in processing plants owned by IBP Inc., the world's largest meat processor. The process will use Titan's SureBeam pasteurization system, which uses ordinary electricity as its energy source to pasteurize food after it has been processed and packaged.

The *San Diego Union-Tribune* reported in November that IBP will pay Titan for each pound of meat pasteurized in the processing plants. The newspaper said IBP has been treating some meats with SureBeam technology on a test basis at a Titan facility in Des

Moines, Iowa. IBP is based in South Dakota and has 60 plants in the U.S. and Canada.

■ ■ ■

The U.S. Department of Agriculture in November awarded \$14.2 million in competitive grants for 29 food safety research and education projects to universities across the nation.

"These grants will support cutting-edge food safety research, consumer education, and nationwide surveillance," said Agriculture Secretary Dan Glickman in announcing the National Integrated Food Safety Initiative. ■

Papers and Presentations continued

Harshavardhan Thippareddi and John Fox also received a \$200,186 grant from the USDA Agriculture Marketing Service for a project entitled "Merchandising Value-Added Lamb Shoulder to the Food Service Industry."

John Marcy, Arkansas, delivered a presentation on "Preparing for USDA-FSIS In-Depth HACCP Verification" at the National Turkey Federation meeting in January in Long Beach, Calif. He also spoke on "Developing Research Programs to Serve Integrated Food Systems" in January at the Southern Association of Agricultural Scientists in Fort Worth, Texas. Marcy also conducted a two-day training workshop in food safety for Arkansas Department of Parks and Tourism personnel from several parks at DeGray Lake State Park. ■

The Food Safety Consortium Newsletter

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