

The Food Safety Consortium Newsletter



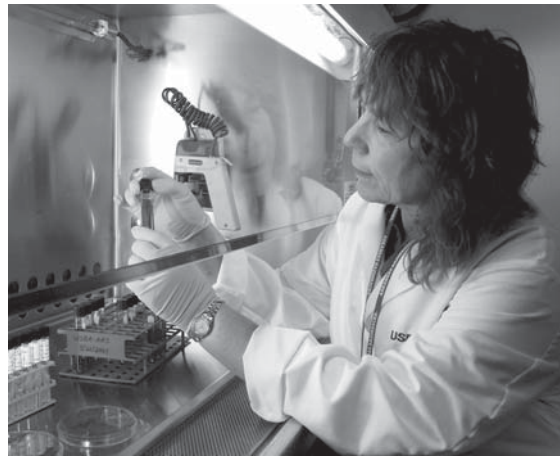
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Plant Sanitation a Problem? Check for Overstressed Turkeys

The floors, the drains and the overall environment in a typical poultry processing plant can easily be a natural source for growing the pathogenic bacterium *Listeria monocytogenes*, which can then contaminate the poultry going down the processing line. The pathogen's natural occurrence in the environment is reason enough for the industry's emphasis on sanitation.

There may be another possible source of contamination in some of the turkeys on the processing line: the turkeys themselves. That's because of the stress levels that a small fraction of them aren't able to tolerate.

A result of opportunistic bacterial infection is turkey osteomyelitis complex (TOC), a stress-related disease that strikes male turkeys. The effect of stress



Gerry Huff, a USDA-ARS microbiologist at the University of Arkansas, examines vials containing biofilm from turkey synovial cultures. She is trying to demonstrate that the cultures, from turkeys' knees, contains *Listeria monocytogenes*.

can weaken the turkeys' immune system and make them susceptible to infection by pathogens.

"It's a condition of processing

turkeys that occurs at an average incidence of 0.2 percent of all processed turkeys," said Gerry Huff, a U.S. Department of Agriculture microbiologist who is researching the issue for the Food Safety Consortium at the University of Arkansas. But even just 0.2 percent still

Continued on page 2

Fox: BSE Still a Threat, More Precautions Needed

Well before the first U.S. case of mad cow disease was discovered in December, Sean Fox's studies of the risks led him to warn, "the disease barrier between cattle and humans is not yet as strong as it could be."

Writing in the February 2003 edition of the agribusiness newspaper *Feedstuffs*, Fox said that if BSE were discovered, strengthening that barrier would "provide solid evidence to back up any claims about the safety of

beef and help minimize, to the benefit of the industry, the inevitable consumer panic."

Fortunately, the December discovery in Washington state appears to have been an isolated incident limited to one cow.

But Fox, a Kansas State University agricultural economist, is sticking by his original call for more precautions. Any future

incidents of bovine spongiform encephalopathy (BSE) might be more

widespread and erode consumer confidence.

Fox, a Food Safety Consortium researcher who is examining BSE's effects on markets, noted several months before the BSE case discovery that the U.S. ban on feeding ruminant-derived protein to cattle and sheep would prevent a disease spread in cattle if properly enforced. But he pointed out that the General Accounting Office said that isn't being done.

The GAO also reported that some foods contain traces of bovine brain or spinal cord so it recommended that

Continued on page 2

'We do not have the capability to reliably trace a cow back to its farm of birth.'

Plant Sanitation... continued

adds up to a long line of turkeys that could be bringing disease into plants on their own. One infected turkey can contaminate the processing plant's surface.

Huff's project has determined that infections of some turkeys' joints, bones and soft tissues may be a contributing factor of contamination in plants and that *Listeria monocytogenes* may be an opportunistic pathogen that strikes the turkey's respiratory system. *Listeria monocytogenes*, if contracted by a human consuming an infected turkey, can kill infants, the elderly, pregnant women and immunocompromised individuals.

"The stress response is different in

males, especially as they approach adolescence and they encounter all of the social pressures of maintaining their pecking order," Huff said. So her task is to find ways to improve conditions, to efficiently produce the turkeys without as much stress in the environment and

to counteract stress through nutrition.

"You'll have some turkeys who react to the changes and stresses that they encounter by increasing corticosteroids (steroid

hormones) to a level that instead of going up and coming back down, the level just stays up there," Huff explained. "So with every little stress they counter, they keep increasing their levels of natural corticosteroids to such an extent that it inhibits their immune response."

The increasing stress in some turkeys can inhibit their immune response.

The turkeys breathe bacteria from their flocks' environment into their respiratory systems, with infection by *E. coli* being the top respiratory disease. Huff's research group wants to find out if *Listeria monocytogenes* is infecting the turkeys as a more chronic disease even though it occurs at a much lower frequency than *E. coli* infections.

"It's interesting that the respiratory route has not been looked at as a model for listeriosis infection," Huff said. "But the respiratory route is the most important disease route in poultry."

"It's not acute, and it's not killing birds," Huff said of listeriosis. "But they may get chronically infected, and then perhaps they can sequester the organisms in their joints. That's the program in a nutshell." ■

BSE Still a Threat... continued

warning labels be placed on foods that might contain them. The U.S. Department of Agriculture rejected the suggestion, maintaining that warnings should be reserved for known hazards, and there was no current BSE hazard.

"This 'we don't have it and the risk is low' approach has been used before," Fox wrote in *Feedstuffs*. "It was essentially the same approach taken in Germany and Japan where official 'BSE free' rhetoric backfired with the devastating economic consequences when the first cases were discovered."

Fox acknowledged that because the risk to human health from BSE is so low, a ban on nervous tissue or the use of warning labels would probably not have much impact in protecting public health. However, in June 2003 in *The Kansas City Star*, he argued that if BSE were discovered in the U.S., a ban on nervous tissue might be a

good economic strategy because "by offering additional reassurance to consumers, it could reduce the cost of a BSE case for the beef industry, the fast food sector and the taxpayer."

In the *Star* commentary, Fox also called for the introduction of a national animal identification system. In January, Agriculture Secretary Ann Veneman told a congressional committee that USDA would work to speed up development of a national identification system, a project that has been in the works since mid-2002.

The infected Holstein that was discovered in Washington was traced back to a farm in Alberta, but Fox said the present

system does not guarantee results in all cases.

"At this time, we do not have the capability to reliably trace a cow back to its farm of birth and, equally important, to find all its cohorts or offspring and eliminate them from the food chain," he said. "The ability to do so would reassure

consumers and export markets that all potential cases related to one found could be detected and prevented from entering the food system."

A national identification system is very complex to establish and the current USDA effort started from scratch, Fox explained. European nations that have a system in place established theirs decades ago. In the U.S., several pilot projects are going on in different states in various stages of progress, he said.

The U.S. ban on feeding ruminant-derived protein to cattle and sheep, implemented in 1997 by the Food and Drug Administration, is similar to a 1988 ban that was enacted in the United Kingdom, which Fox said failed because of cross-contamination between ruminant and non-ruminant feed. By 2001, the European Union completely banned feeding meat and bone meal to all farm animals and fish, followed by Japan.

"It seems unlikely that the FDA ban provides adequate assurance that ruminant feed does not contain prohibited material," Fox said. ■



Sean Fox of Kansas State University says future BSE cases could hurt consumer confidence.

FDA Approves Food Safety Product's Use on Poultry

A breakthrough in food safety that had its origins in a Food Safety Consortium research project won the approval of the Food and Drug Administration in late February and will soon be deployed in the war against foodborne illnesses.

Safe Foods Corp., the North Little Rock, Ark.-based company that owns the U. S. and international comprehensive patents to Cecure, announced the notice of approval by the FDA for Cecure's use on raw poultry. The food safety company made the announcement March 3 at its research and development laboratories in Rogers, Ark.

Cecure is based on cetylpyridinium chloride (CPC), the active ingredient used in mouth rinses and throat lozenges, which have been safely consumed in multiple over-the-counter oral hygiene products for more than 50 years. CPC has been proven to be dramatically effective in killing most foodborne pathogens that cause serious and sometimes life-threatening illnesses, including *Listeria*, *E. coli*, *Salmonella*, and *Campylobacter*.

Cecure was discovered in the early 1990s by teams led by FSC researchers Danny Lattin at the University of Arkansas for Medical Sciences (UAMS) in Little Rock and Michael F. Slavik at the University of Arkansas Center of Excellence for Poultry Science in Fayetteville. (Lattin is now on the University of Kansas faculty; Slavik is still at the UA-Fayetteville.)

Safe Foods Corp., which acquired the worldwide patent rights to all food-related applications of CPC through an exclusive licensing agreement with the UA, conducted the research necessary to win the approval of both the FDA and the U.S. Department of Agriculture.

The first of multiple patents for Cecure was granted in 1994 to UAMS. In June 1999, Safe Foods acquired the

exclusive worldwide rights to the patents from UAMS.

Curtis Coleman, president and chief executive officer of Safe Foods, said that almost all of the research required to win FDA and USDA approval was conducted in the company's research and development facilities in Rogers.

"We have one of the finest food safety R&D teams in the world," he said, "led by Dr. Kelly Beers, Joe Rheingans, Gary Nolen and Dr. Amy Waldroup." Beers, Rheingans, Nolen and Waldroup are all residents of Northwest Arkansas.

Coleman explained that the next step is for the FDA to publish the new regulation in the *Federal Register* and, following a standard 30-day public comment period, commercial use of Cecure can begin. Safe Foods will then begin making Cecure available to chicken and turkey processors as the next generation food safety technology in a pre-chill application, he said. The process approved by the FDA involves spraying Cecure on the poultry as it passes down the production line. The overspray is captured and recycled in the process leaving no environmental impact.

A study by the Department of Food Science and Technology at Virginia Tech University, published recently in the *Journal of Applied Poultry Research*, compared the efficacy of a number of antimicrobials against *Campylobacter jejuni* on chicken skin and concluded that CPC "was the most effective antimicrobial agent in this study." According to the federal Centers for Disease Control (CDC), *Campylobacter* is the most common bacterial cause of diarrheal illness in the United States, estimated to affect more than 2 million

people annually.

Waldroup, Safe Foods' senior advisor for food safety and a former FSC researcher at the UA, said, "This is really a huge jump for food safety, especially for the poultry industry that has really been searching for an antimicrobial that can help them meet and exceed all of their government regulations and produce a much safer product for the consumer."

Timothy J. O'Brien, director of the Biomedical Biotechnology Center at UAMS, said, "Our challenge as scientists

is to move useful ideas from the lab into the marketplace for better human health and well being. The use of the fundamental chemistry of the

CPC has been proven to be dramatically effective in killing most foodborne pathogens

Cecure antimicrobial was discovered and developed by faculty researchers at UAMS, and Safe Foods Corp. is now a classic example of technology transfer."

The need for new food safety technology is apparent from news reports of foodborne illnesses. The federal government estimates there are 76 million foodborne infections, 325,000 hospitalizations and 5,200 deaths in the United States each year.

Cecure, according to FSC researcher James Marsden, Regents Distinguished Professor of Meat Science at Kansas State University, "is a thousand times more effective than anything else we've tested."

Safe Foods is seeking regulatory approval for the use of Cecure in other countries as well as for other areas of the food processing industry. Other applications under development include beef, pork, seafood, and fruit and vegetable applications. ■

Report from the Coordinator



Gregory J. Weidemann

It has become a truism that there is a gap between consumers and those whose occupations concern food safety, whether in research, government or industry. Consumers generally don't know about the details of the work that is done by regulators and by those in the research, production and processing segments of the food safety chain. This situation exists despite the increased interest in food safety among consumers.

Juliet Zavon, a business development consultant for the food industry, explained the situation in a commentary in the March 1 edition of the agribusiness newspaper *Feedstuffs*. She wrote, "The average consumer's view of food safety has little overlap with the workings of the food safety system, the grain industry and food processors face, and this experience gap can baffle or frustrate those trained in the sciences or engineering who have to respond to consumer concerns. The direct experience most consumers have had with food safety in the industry's sense of the word is largely limited to inspecting and sniffing an item in the refrigerator to decide whether it has

spoiled and should be thrown away."

It wasn't always like this. In early-day America, people cultivated their food close to home and knew what they had. In doing so, they were limited to what was produced by their neighbors during that particular season. They probably knew enough about their neighbors to know if they were following the safe production practices of the day. James E. McWilliams, a history professor at Texas State University—San Marcos, explained in a *USA Today* commentary that technology changed the landscape.

"Early 19th century industrialization and western expansion sparked a domestic trade extensive enough for many Americans to start buying food from unknown vendors in impersonal markets," McWilliams wrote. "Americans traded safety for convenience and began to get the food they wanted whenever they wanted it. And that's precisely when trust began to diminish."

Now the government oversees the safety of the nation's highly mobile food supply and industries are responsible for providing safe products to their customers. Zavon explained that in a

democratic society, that may mean some clashes with science because "regulatory agencies have to pay attention to the people. For better or for worse, this means that if enough people are concerned about an issue, whether or not it is justified in the eyes of the scientific community, regulatory agencies will have to address it."

When consumer concerns become part of the legislative agenda, according to Zavon, the food industry will realize costs and benefits, new market opportunities and significant investment. "Incorrectly reading consumer perceptions can be costly, just like incorrectly engineering a processing plant can be costly."

Industry, government and researchers have a hand in closing the communications gap on food safety with the consuming public. It's good business to do so for all concerned. ■

Ready-to-Eat Foods Likely the Major Listeriosis Source

Listeriosis, a rare but severe disease, usually finds its way to susceptible people by way of foods that have been abused, fostering the growth of *Listeria monocytogenes*. A Food and Drug Administration scientist said an appropriate public health policy to fight the disease would be to prevent consumption of foods that have acquired these high levels of *Listeria monocytogenes*.

Ready-to-eat foods are probably the major source of listeriosis, said Richard Whiting, a senior scientist for the FDA Center for Food Safety and Applied Nutrition. Whiting, who explained his findings at the Institute of Food Technologists Food Safety and Quality

Conference in November in Orlando, surveyed 23 categories of ready-to-eat foods based on their potential for contamination.

Whiting's projections show an estimated 390 deaths a year due to listeriosis, with 307 of

them among people age 60 or older. Pregnant women and the immunocompromised are also particularly at risk from the disease.

"Nearly all listeriosis results after a susceptible individual consumes a large

dose of *Listeria monocytogenes*," Whiting said. "The foods that lead to listeriosis are almost always growth-supporting foods that have been abused."

Whiting's surveys are based on thousands of samples served. But the total intake of ready-to-eat foods adds up to

about 340 billion a year, so the samples would indicate that large numbers of the population are consuming some *Listeria monocytogenes*.

The summary of exposure, with

Continued on page 6

'Even very low occurrences here can represent a significant number of contaminated surfaces.'

Tyson Foods Establishes Chair in Food Safety at Arkansas

Tyson Foods Inc., the world's largest protein producer, has established an endowed chair at the University of Arkansas Dale Bumpers College of Agricultural, Food and Life Sciences.

Named for the retired president and chief operating officer of Tyson Foods, the Donald "Buddy" Wray Chair in Food Safety will support areas key to Arkansas' economy including food processing and poultry processing. Research sponsored through this endowment will help ensure the quality of future processes and products. The chair holder will provide the additional faculty capacity needed to bring the university's food microbiology program to national and international prominence.

A national search is under way for the first holder of the Wray Chair.

At the announcement in April, UA Chancellor John A. White said: "We are extremely grateful to Tyson Foods for their ongoing support of the Bumpers College. Endowing and naming a chair for Buddy Wray not only honors him, but it also honors us by permanently associating his name with the University of Arkansas. The Wray Chair in Food Safety will enable us to attract and keep outstanding educators and researchers. Tyson Foods' participation in the Campaign for the Twenty-First Century fuels our vision of a nationally competitive, student-centered research university serving Arkansas and the world."

In early 2003, Tyson Foods made a gift in kind, which will be matched by \$1.5 million from the Walton Family Charitable Support Foundation's \$300 million gift to the university in 2002. Investment returns on the total



Donald "Buddy" Wray (left), namesake of the newly endowed food safety chair at the University of Arkansas, speaks with John Tyson, chairman and CEO of Tyson Foods.

endowment will be used to enhance teaching, research and service programs conducted by the holder of the Wray Chair.

Greg Weidemann, dean of the Dale Bumpers College of Agricultural, Food and Life Sciences, said: "Tyson Foods has been a generous supporter of Bumpers College programs over the years, and we are grateful for their continued support. Research in food safety is critical to the future of the food industry and we are pleased that Tyson Foods is making this

The chair holder will provide the additional faculty capacity needed to bring the university's food microbiology program to national and international prominence.

investment to improve our research capacity in food safety. We're excited about finding an excellent candidate to be the first holder of the Wray Chair."

The U of A is the lead

institution in the USDA-funded Food Safety Consortium, which is providing grant support for 13 food safety research projects this year involving 11 UA faculty scientists. Wray has served as an industry adviser to the Food Safety Consortium.

John Tyson, chairman and CEO of

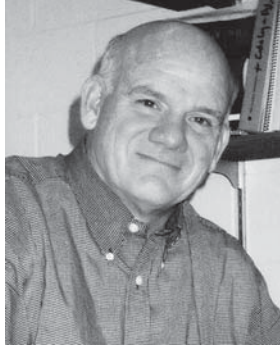
Tyson Foods, and chairman of the Campaign for the Twenty-First Century Corporate and Foundation Committee, said: "Tyson Foods is proud to be able to support the University of Arkansas by endowing this chair in the critically important discipline of food safety. We're also extremely pleased this endowment will honor Buddy Wray, who, as part of the Tyson Foods family, spent his career devoted to the excellence for which our brand has become known."

After serving in the U.S. Army, Wray, a native of Des Arc, Ark., and a graduate of the U of A, joined Tyson Foods in 1961 as a field serviceman. He was promoted to production supervisor in 1963, to director of sales in 1964, to director of processing and sales in 1967, to vice president of sales and marketing in 1982 and to senior vice president of sales and marketing in 1984. He became chief operating officer in 1991, and in 1995 president was added to his title. He retired from Tyson Foods in 2000.

Wray was also a member of the Tyson board of directors from 1994 until 2003. In 1999, the members of the Arkansas Poultry Federation gave Buddy Wray their highest honor by naming him "Man of the Year." Wray has served on the board of the International Food Manufacturers Association, the Dean's Advisory Council for the UA Sam M. Walton College of Business and the board of American Poultry U.S.A., where he was also vice president. He was named Outstanding Alumnus by the U of A in 2000 and named Outstanding Alumnus of the Department of Animal Science in 2001. Additionally, he served on the board of the National Chicken Council from 1995 to 2000, including service on the executive committee in 1998 and 1999. He was a member of the honorary agriculture fraternities Gamma Sigma Delta and Alpha Zeta. ■

Young Pigs Face Possible West Nile Risk

Since the emergence of West Nile virus in the Western Hemisphere in 1999, health care personnel have been on the lookout for signs of infection in people and animals. Recent research suggests that food processing personnel should beware of the presence of the virus in swine and a potential health risk to employees in pork processing plants.



Kenneth Platt of Iowa State University seeks more information on links between swine and West Nile virus infections.

Food Safety Consortium researchers at Iowa State University examined swine and found that weanling pigs, about four weeks old, are susceptible to West Nile virus infection from a relatively small level of virus delivered by mosquitoes. The pigs' susceptibility to the virus appears to decrease as the pigs grow older, but more research remains to be done to determine the risk level of older, market-age pigs.

Among the younger pigs studied, levels of the virus in the bloodstream can be quite high. "There's enough virus in that blood that I wouldn't want to cut myself with a knife that just went through there," said Kenneth Platt, an ISU veterinary microbiology professor

who conducted the study.

It's also common among other animals and birds for the level of virus concentration to be much higher in the younger species than the older ones. If more extensive research into market-age 200-pound pigs shows the virus concentration at high levels for three or four days similar to what is found in the weanlings, "then I think there should be concern with individuals who are

handling those carcasses and that fresh meat product," Platt said. The next step would be to examine how long the virus remains infective in fresh meat and frozen meat products.

Infected pigs can pose a problem not only for plant workers who come in contact with them, but can also cause uninfected mosquitoes to contract West Nile virus when they feed on pigs with the virus in their bloodstream. Even so, the pigs are still

not a significant source of the virus for the mosquitoes, Platt said.

Mosquitoes remain the most likely source to infect pigs when they are housed together on the farm or at an abattoir. "In our observations we've had infected and uninfected pigs in the same pen in intimate contact, and we saw no evidence of transmission from pig to pig," Platt said. "The most logical conclusion is that pigs are going to become infected by the bite of mosquitoes."

More research on the topic will be necessary to follow on some of Platt's suspicions that the latest research has narrowed. For example, if a six-month-old market-age pig has a high level of the West Nile virus in the bloodstream, the threat to the processing plant employee could be exposure by cutting through

infected meat or by incurring a scratch from a sharp bone.

"If you pick it up and handle it and you don't have any scratches on your hand, I don't think that would be a problem,"

Platt said. "If you

cut yourself on a bone or knife, it could be a problem. But we don't really know yet." ■

Mosquitoes remain the most likely source to infect pigs when they are housed together on the farm or at an abattoir.

Ready-to-Eat Foods... *continued*

sample occurrences extrapolated across the total population, shows that about 1,300 ready-to-eat servings per person a year containing no *Listeria monocytogenes* are consumed. Nineteen servings per person a year contain up to 1,000 colony-forming units per gram of *Listeria monocytogenes* (an average consumption of once every three weeks per person). An average of almost one serving per person a year contains at least 1 million colony-forming units per

gram, considered a high level of the pathogen.

"When we look at a specific food, there are some factors that really stand out," Whiting said. "There's the amount and frequency of consumption, the frequency and levels of contamination, the ability of the food to support the growth of *Listeria*. Has the *Listeria* had the opportunity to grow, which is primarily time and temperature."

Whiting looked into the general categories of the ready-to-eat foods:

seafood, produce, meats, dairy products and deli-type salads. He then analyzed the exposure assessment of each surveyed food, looking for the number of *Listeria monocytogenes* on the food when it was contaminated, the pathogen's growth before the food was consumed, the frequency of consumption and the amount consumed.

"You have to keep in mind this may be only one (contaminated) sample out of some 2,000 individual samples (of a

Continued on page 8

Traceability Enhances Food Safety for Industry, OFPA Learns

The businesses in the food chain need more information and better tools to comply with food safety requirements, and traceability is one way to get that information, an industry executive told the Ozark Food Processors Association during its 98th annual meeting March 31 in Springdale, Ark.

“The consumer is king, dictating to food companies what they’re looking for,” advised Andrew Arnold, manager of business development for John Deere Food Origins of Lathrop, Calif.

Arnold said consumers wonder what’s in their food, the food industry wants to improve their products and the government wants to know how ingredients get into the processed food.

Providers include data about their foods’ content that are added along the chain. There is also a secondary chain that traces the origins of each of a product’s ingredients. All these chains attract interest, Arnold said, noting that a potato industry official once said, “Everyone wants to know everything about everything anymore.”

Information technology assists along the chain by enabling the collection of data about crops, facilitating networks in processing plants and tracking transportation inventory. Finally, technology at the point of purchase tracks what consumers buy.

Many companies are beginning to try radio frequency identification tags (RFIDs) to track a product along the way and to record information about the product as it is processed. In the food chain, RFIDs can track bins of fruit, cases of produce, trailers of vegetables, livestock from live animal to meat pack, finished packages and pallets with cases, Arnold said.

Information Week recently reported that the value of RFIDs will be realized when businesses can obtain the product information in real time or near real time as it is entered, Arnold said, adding that a value analysis found that RFIDs

could result in a projected 83 percent reduction in the scope of product recalls.

Another emerging tool in enhancing food safety turns out to be a product of nature that has been known for a long time. Phages, natural predators of bacteria, are caused by viruses and can be used to decontaminate food processing facilities and food products.

Alexander Sulakvelidze, chief scientist at Intralytix, Inc., of Baltimore, cautioned that phages aren’t a “magic bullet” for food safety because individual phages must be developed to target specific pathogens. A particular phage “may solve your *Listeria*

monocytogenes problem, but not your *E. coli* problem,” he said.

Phages also will not supplant antibiotics, but he noted there is a renewal of interest in them. The

popularity of antibiotics overtook phages in the U.S. in the 1920s and 1930s, but phages remained a common treatment of infections in Eastern Europe and the former

Soviet Union, where antibiotics were not widely available, Sulakvelidze said.

“We get phages from the environment,” he said. “We don’t alter them in any way. Mother Nature does the best job.” ■

‘Everyone wants to know everything about everything anymore.’

Papers & Presentations

Aubrey Mendonca, Iowa State, M.G. Romero, M.A. Lihono, Ramakrishna Nannapaneni and Michael Johnson, Arkansas, published “Radiation resistance and virulence of *Listeria monocytogenes* Scott A following starvation in physiological saline” in the *Journal of Food Protection*, 67(No. 3): 470-474.

Liju Yang, Yanbin Li, Carl Griffis and Michael Johnson, Arkansas, published “Interdigitated microelectrode (IME) impedance sensor for detection of viable *Salmonella typhimurium*” in *Biosensors and Bioelectronics*, 19: 1139-1147.

C. Dayton Steelman, Arkansas, delivered an invited presentation on “Filth fly menace — human and animal health implications: movement of pathogens through agro-ecosystems by

filth flies” at the Symposium at the Entomological Society of America national meeting in Cincinnati.

Carrie B. Owens, Tanja McKay, Allen L. Szalanski and C. Dayton Steelman, Arkansas, won first place for their poster display in medical veterinary entomology, “Molecular identification of pathogens carried by house flies associated with turkey production facilities,” at the Symposium at the Entomological Society of America national meeting in Cincinnati. They also displayed a poster on “Molecular identification of pathogens carried by black garbage flies associated with turkey production facilities.”

Curtis Kastner, Kansas State, spoke on food safety and security in April at the annual conference of public health nurses in Wichita, Kan. ■

Food Safety Digest

by Dave Edmark

As the food safety community ponders the appropriate response to the prospect of BSE in North American cattle, the editor of *Meat Processing* believes the industry should pay attention to Dr. Stanley Prusiner, the Nobel Prize-winning scientist at the University of California-San Francisco who first theorized that the rogue proteins called prions are responsible for BSE.

"It would be foolhardy, then, to question Dr. Prusiner's motives or credibility," wrote Steve Bjerklie in *Meatnews.com's* Perspective section in March. "Yet some members of the U.S. meat industry are doing exactly that. He has been an outspoken advocate for more testing — much more testing, in fact — for BSE in the U.S. cattle herd. It's his contention that just a single BSE-infected animal has been found to date in the United States because USDA and the industry haven't looked very hard for the disease."

Bjerklie said that Prusiner has an unpopular opinion that prions may be present in cattle's muscle tissue and not just nerve tissue. His advocacy of testing all beef and dairy animals for BSE is also unpopular.

"One thing the U.S. beef industry

can do right now to stop this kind of silliness is invite Dr. Prusiner to address a major industry meeting," Bjerklie wrote. "There's not a person in the industry who can't learn something from a Nobel Prize winner. ... Indeed, not having him speak at an industry gathering would serve only to demonstrate that the industry would rather not know more about a disease that threatens its very existence. Now what kind of industry would want to demonstrate that to the world?"

■ ■ ■

Garry L. McKee, who served as administrator of the USDA Food Safety and Inspection Service, left his post in February to become science advisor at the FSIS Technical Service Center in Omaha, Neb. McKee, who took the Washington-based job in July 2002, chose to apply for the position in Omaha to be closer to his family.

The new acting administrator of FSIS is Barbara Masters, a veterinarian who is currently the agency's deputy administrator for field operations. Masters holds a doctor of veterinary medicine degree from Mississippi State University and served a food animal internship at Kansas State University. She will serve as acting administrator until a permanent replacement for McKee is found.

■ ■ ■

The International Council on Food Irradiation announced its founding in March. The organization is the product of the First World Congress on Food

Irradiation that was held in 2003.

"Food safety leaders from around the globe conceived the concept of a network to foster the gathering and sharing of science-based facts about food irradiation worldwide," said Paisan Loaharanu, ICFI executive director. The co-executive director is Edward Mather, deputy director of the National Food Safety and Toxicology Center at Michigan State University.

"There is a lot of misleading and even false information being disseminated to the general public about food irradiation," Loaharanu said. "We are optimistic that ICFI will help consumers everywhere to understand the benefits of irradiated foods and to embrace the technology without reservation."

The ICFI web site is at www.icfi.org.

Ready-to-Eat Foods... continued

particular food)," Whiting said. "Scale this up to billions of servings per year and even very low occurrences here can represent a significant number of contaminated surfaces."

Some samples taken showed that 10 percent of home refrigerators were running at temperatures of at least 45 degrees Fahrenheit, approaching a level that facilitates the growth of *Listeria monocytogenes*. "Even more importantly, there was about 1.4 percent of refrigerators running above 50 degrees," Whiting said. "Someone said that's not a refrigerator, that's an incubator." ■

The Food Safety Consortium Newsletter

is a production of the three member schools of the consortium: University of Arkansas, Iowa State University and Kansas State University. Your comments are welcome.

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