

Summer 2010

Center for Food Safety, Summer 2010

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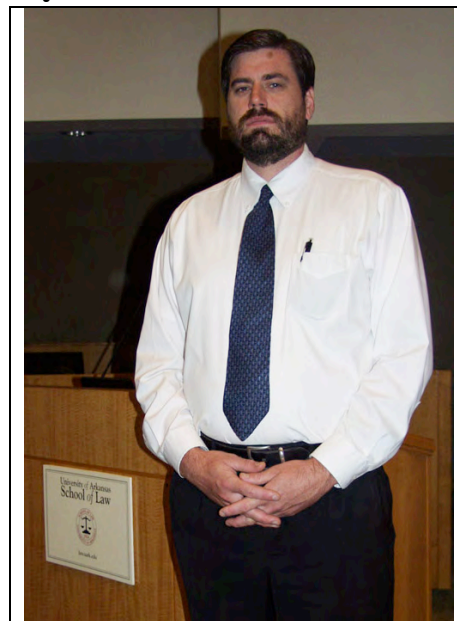
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National Agricultural Law Center Director Joins Center for Food Safety



*Harrison Pittman, director of the
National Agricultural Law Center*

One of the UA Center for Food Safety's newest faculty members brings the full resources of the nation's top agricultural law research unit. Harrison Pittman, who serves as director of the National Agricultural Law Center based at the UA School of Law, counts food safety and food law among the NALC's increasingly prominent areas of interest.

"Food labeling, animal welfare, antibiotics are all big issues," Pittman said. The NALC's job, when examining food safety questions or any other agricultural subject, is to provide information based on objective research.

"We give the same answer to everybody," Pittman explained, noting that the NALC is not an advocacy organization. "Our role is to be the nation's leading source for agricultural and food law research and information."

The requests for information come from diverse sources. The NALC serves as a clearinghouse for inquiries nationwide from Extension personnel, environmental organizations, farmers, policymakers and research agencies, among others. "We don't just work with attorneys," Pittman said. NALC is funded by Congress through the U.S.

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National Agricultural Law Center Serves as Top Source for Food Law, Information

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Department of Agriculture's National Agricultural Library and operated by the law school and the UA Division of Agriculture. Pittman directs a staff of three other attorneys who examine issues and produce reports for specific requests and for public posting on the center's website at <http://nationalaglawcenter.org>.

The NALC doesn't give legal counsel or represent clients. At times Pittman has to tell people with inquiries that they many need to hire their own lawyer to pursue an issue. But the NALC can assist in resolving legal questions that affect activities in the public or private sector.

For example, Pittman worked with UA food science researchers who were preparing a project proposal in collaboration with Midwestern pecan growers. A technical question arose as to whether their pecans would lose their official certification as organic at some point in the production process. The NALC is working with food science researchers to clarify answers the researchers needed as they proceed with their research efforts

The NALC staff has occasionally written model legislation in response to requests from government officials, but its main work is as an information provider. The NALC compiles detailed reports and publications that chronicle changes in agricultural laws and policies. Its website includes comprehensive coverage of food law updates in the United States and Europe. Several "reading rooms" within the website focusing on particular topics – including country-of-origin labeling, food safety, food labeling, local food, the Packers and Stockyards Act, biosecurity and nutrition programs – include links to statutes, regulations, case law, articles and publications.

The articles posted online in the topical reading rooms include material from the *Journal of Food Law and Policy*, a twice-yearly publication that has been edited by UA law students since its inception in 2005 when it was initially funded by the NALC. Pittman noted that that the journal editors have the freedom to take positions on the issues explored in its articles, although the NALC maintains its neutrality in its own presentation of topical issues in food safety and other areas of agricultural law.

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Center for Food Safety Personnel List Grows

The UA Center for Food Safety now has 13 faculty members. In the coming editions of this newsletter, faculty members will be featured with articles explaining their research roles.

The center's faculty members are Steven C. Ricke, center director, food science; Phil Crandall, food science; Michael G. Johnson, food science (emeritus), Jody Lingbeck, food science; Steve Seideman, food science; Casey Owens-Hanning, poultry science; Navam Hettiarachchy, food science; Fred Pohlman, animal science; Harrison Pittman, law; John Marcy, poultry science; Michael Slavik, poultry science; Dustan Clark, poultry science, and Young Min Kwon, poultry science.

Combining Salt With Heat Shows Way to Reduce *Salmonella* in UA Project



*Post-doctoral research associate Sara Milillo streaks plates on which cultures of *Salmonella* will be grown.*

Poultry processors who constantly engage in the battle to keep *Salmonella* contamination off their products may have a new procedure at their disposal: add some salt and turn up the heat.

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It's more complex than just that, but it's the key point of recent Food Safety Consortium research by Sara Milillo, a postdoctoral research associate in food science at the University of Arkansas Division of Agriculture. Milillo reached her findings with Steven C. Ricke, director of the university's Center for Food Safety, where Milillo is conducting research under a two-year U.S. Department of Agriculture fellowship grant.

"Our goal is to come up with a multiple hurdle treatment where we combine things to help prevent bacterial resistance by using different treatments that attack different functions or parts of the cells simultaneously," Milillo explained.

Milillo's study, which was published in the *Journal of Food Science*, examined the application of heat at 55 degrees Celsius (131 degrees Fahrenheit) plus an acidified organic acid salt solution as a way of reducing *Salmonella* on chicken. The combined treatment resulted in significant reduction of the pathogen, leading Milillo to conclude that it may represent an effective method for decontaminating poultry carcasses during processing.

Milillo also tried heat and salt treatments separately and found that neither one was adequate standing alone to do the job. An application of 2.5 percent organic acid salt solution did not reduce *Salmonella* appreciably. "We did heat alone to see if that had an effect by itself and it didn't, even beyond 55 degrees C," she said.

These experiments were conducted using chicken juice, a raw chicken model medium, rather than chicken carcasses. The results tell enough of a story to draw valid conclusions, but more information will be available by taking the research to another level that uses chicken carcasses.

"We can screen treatments much faster in a broth-model type of situation," Milillo said. "We're hoping the chicken juice gets us a step closer to an actual raw poultry system. But by using chicken juice initially we can screen lots of treatments and narrow down what's the most effective before we go into a more costly use of actual carcasses. I view this as using your resources efficiently."

Milillo and industry personnel have reviewed processing procedures that could be adapted to the research findings. Heated washes are used in steps to clean carcasses, so the use of a salt additive in a heated rinse might be one place to implement new methods.

Experiments with carcasses will come later, possibly followed later by tests to determine how the combined heat and organic acid salt treatments would apply to poultry after it has been eviscerated in the processing plant.

"At any point where risk of a carcass being contaminated is higher there is a need for more

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effective antimicrobials,” Milillo said. “So save your most powerful antimicrobial interventions for those processing steps with the ultimate goal of an even safer product.”

Center Doctoral Student Awarded ASM Travel Grant, Presents Research



Suwat Saengkerdsub, third from left, is joined by UA colleagues at the American Society for Microbiology meeting in San Diego, which he attended on an ASM travel grant and where he presented his research.

Suwat Saengkerdsub, a doctoral student in poultry science at the Center for Food Safety, received a travel grant in May to attend the American Society for Microbiology annual meeting in San Diego. He presented a poster and delivered an oral report of his work.

Saengkerdsub presented his report on “Initial Screening of Methionine-Producing Bacteria for Organic Poultry Feed” as the lead researcher in association with Jody M. Lingbeck, Si Hong Park, Arunachalam Muthaiyan and Steven C. Ricke. He said the goal of the study was to isolate methionine-overproducing bacteria that could be used to produce methionine, a nutritionally essential amino acid for poultry, which can be directly added to organic feed as a supplement. “Seven isolates were identified as methionine-overproducing bacteria. Some

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isolates were able to produce methionine higher than *C. glutamicum* ATCC 13032, the reference strain, and could be potentially suitable for organic poultry feed,” he said.

Arkansas Association for Food Protection Sets Annual Meeting

The Arkansas Association for Food Protection – an affiliate of the International Association for Food Protection – will hold its second annual educational conference and meeting Sept. 28-29 at Tyson Foods general offices in Springdale, Ark. This year’s theme is “Enhancing Food Protection From Farm to Fork.”

The conference hours will be 1-5 p.m. Sept. 28 with an awards dinner that evening followed by sessions from 8 a.m. to 3 p.m. Sept. 29.

The agenda is still being arranged but confirmed speakers so far include Katie Swanson of Ecolab, Frank Yiannas of Walmart Stores and Joan Menke-Schaenzer of ConAgra.

The conference fee is \$30 per person. Registration may be done online at <http://arkafp.org/conferences.aspx>. Hotel rooms are being held for the conference at the Holiday Inn of Springdale and may be booked at <http://tinyurl.com/2f4ejyi>. Questions about the conference may be directed to Mike Sostrin at Michael.Sostrin@wal-mart.com.

Workshops at Center for Food Safety

A) Microbiological Laboratory Logistics and Fundamentals - This workshop will be held on several dates (August 17-19, September 14-16 October 19-21, 2010).

http://www.uark.edu/ua/foodpro/Workshops/Micro_Lab.html

B) Molecular Biology and Biotechnology; Workshop for Beginners - This workshop will be held on several dates (August 25-26, September 22-23, October 27-28, 2010).

<http://www.uark.edu/ua/foodpro/Workshops/Molecular-lab.html>

C) Better Process Control School – This 3.5 day workshop will be held the first week of November (November 2-5, 2010). For more information and registration form, go to;

<http://www.uark.edu/depts/ifse/bpcsrev1.html>.

D) New Product Development Workshop - This workshop will be held May 24-25, 2011 at the Food Science Building at the University of Arkansas. This workshop is for people wanting to know more about developing and marketing new food products.

http://www.uark.edu/ua/foodpro/Workshops/New_Product_Development_Workshop.html

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E) Sensory Evaluation of Foods – This workshop will be held June 2011. For details and registration information, click on the following;

http://www.uark.edu/ua/foodpro/Workshops/Sensory_Evaluation_Workshop.html

F) Food Protection Workshop - This workshop will be held in April 2011. It involves both Food Safety and Food Defense. For more details and registration, click on the following;

http://www.uark.edu/ua/foodpro/Workshops/Food_Safety_Defense_Workshop.html

G) GMP, SOPs and HACCP - Taught by Dr John Marcy.

http://www.uark.edu/ua/foodpro/Workshops/AGENDA_2009.doc

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