

21 July 2008



## REGULATORY

### **US Agriculture Secretary announces plan to end exceptions to animal handling rule**

The US Secretary of Agriculture announced that USDA will begin developing a proposed rule to stop the slaughter of all disabled non-ambulatory cattle, known as "downer cattle." This would end exceptions in the so called "downer rule." In 2007, of the approximately 34 million cattle slaughtered in the US, less than 1,000 cattle were re-inspected and approved by FSIS veterinarians for slaughter. The new rule targets cattle that 'go-down' after they have passed pre-slaughter inspection. FSIS is drafting a proposed rule to remove an exception for allowing certain injured cattle to proceed to slaughter. According to the USDA, "cattle producers, transporters and slaughter establishments alike will be encouraged to enhance humane handling practices, as there will no longer be any market for cattle that are too weak to rise or walk on their own."

20 May 2008

US Department of Agriculture

[http://www.usda.gov/wps/portal/!ut/p/\\_s.7\\_0\\_A/7\\_0\\_1OB?contentidonly=true&contentid=2008/05/0131.xml](http://www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_1OB?contentidonly=true&contentid=2008/05/0131.xml)

### **USDA to list retail stores involved in recalls**

Starting in August 2008, the USDA plans to list the names of retail stores that receive meat and poultry products involved in Class I recalls. In the US, such recalls present a more serious risk to public health. The US Secretary of Agriculture, Ed Schafer, said 'The identity of retail stores with recalled meat and poultry from their suppliers has always been a missing piece of information for the public during a recall.' The US Food Safety and Inspection Service (FSIS) will post a list of retail stores that receive products related to Class I recalls within three to 10 business days of issuing the recall. The FSIS does not have plans to identify distribution centers, institutions or restaurants because they produce food that will be consumed immediately and do not have packaging that is identifiable to consumers.

17 June 2008

Meatinternational.com

<http://www.meatinternational.com/news/food-safety/>

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## BIOTECHNOLOGY

### **Food safety fears voiced after birth of cloned farm cows**

Eight “clone farm” cows were born in the UK. They are thought to have been transported into Britain from the US as frozen embryos and then implanted into a surrogate. The cows’ mother was created in a US laboratory using cells from a donor’s ear. In the UK, no ban exists on meat or milk produced by offspring of clones, therefore the calves can enter the food chain. The US government has approved the production and marketing of food derived from cloned animals, and the FDA has declared that meat and milk from cloned cattle and goats and their offspring is safe. The European Food Safety Authority released draft guidance in the same month as the US approval, stating that food from cloned cattle was identical to those from conventionally bred cattle. The Food Standards Agency stated that an “overwhelming majority” said they would not consume meat from cloned animals. Concerned consumers believed that cloning could produce new diseases and affect human health.

9 June 2008

Gulf Times

[http://www.gulf-](http://www.gulf-times.com/site/topics/article.asp?cu_no=2&item_no=223227&version=1&template_id=38&parent_id=20)

[times.com/site/topics/article.asp?cu\\_no=2&item\\_no=223227&version=1&template\\_id=38&parent\\_id=20](http://www.gulf-times.com/site/topics/article.asp?cu_no=2&item_no=223227&version=1&template_id=38&parent_id=20)

### **Radio frequency heating could remove food pathogens**

A US investment firm, Allied Minds, is reporting that radio frequency (RF) heating can eliminate microbes and insects without the use of chemicals. Allied Minds stated that it is funding a new company, RF Biocidics, to produce and commercialise the technology called ‘selective’ or ‘differential’ RF heating. The technology differentially heats and eliminates microorganisms and insects, while reducing the heating effect on the food. According to the company, RF waves do not produce residues and is based on differences in electrical conductivity between the pest and host commodity. The company states that the technology may be on the market within 12 to 18 months.

3 July 2008

FoodProductionDaily.com

<http://www.foodproductiondaily.com/news/ng.asp?n=86320-allied-minds-radio-frequency-heating-disinfection>

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### **EPA-approved antimicrobial for control of *Listeria monocytogenes* in food plants**

Intralytix, Inc. reported that the company has received a registration from the Environmental Protection Agency (EPA) for LMP-102™ as an antimicrobial for use against *Listeria monocytogenes*. The phage-based antimicrobial is intended for use in food processing plants and food-handling establishments. This is believed to be the first approval by the EPA of a natural phage-based product to be used as an environmental decontaminant. According to the company, tests submitted to the EPA show that LMP-102 kills 99% of *Listeria monocytogenes* within five minutes of application. LMP-102 has already been approved by the US Food and Drug Administration as a food additive against *Listeria monocytogenes* on ready-to-eat foods.

23 June 2008

Intralytix, Inc

[http://www.intralytix.com/Intral\\_News\\_PR062308.htm](http://www.intralytix.com/Intral_News_PR062308.htm)

### **Nanotechnology-based biosensor helps detect biohazards**

A nanotechnology-based biosensor developed by the US National Aeronautics and Space Administration (NASA) reportedly can detect trace amounts of bacteria, viruses and parasites. The biosensor has applications in water, food and other contaminated sources. NASA has licensed the technology to Early Warning Inc. of Troy, New York, USA. Under a Reimbursable Space Act Agreement, NASA and Early Warning will collaborate to develop new and enhanced biosensor applications. Early trials will apply the sensor to detect common and rare strains of microorganisms associated with water-borne microbial pathogens. Meyya Meyyappan, chief NASA scientist for exploration technology, states "The biosensor makes use of ultra-sensitive carbon nanotubes which can detect biohazards at very low levels." The biosensor generates an electrical signal when the target is detected. Due to their small size, millions of nanotubes fit on a single biosensor chip. Early Warning expects to launch its water-testing products in late 2008.

23 May 2008

Thomas Net

<http://news.thomasnet.com/companystory/544772>

## **INGREDIENT TECHNOLOGY**

### **Spices to control foodborne diseases**

According to the Agricultural Research Service (ARS), oils from herbs and spices, such as oregano, thyme, cinnamon and clove, have significant antimicrobial properties that

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inactivate foodborne pathogens such as *Escherichia coli* O157:H7. Scientists at the ARS Western Regional Research Center in California are evaluating the bactericides in edible films made of plant materials containing oils such as carvacrol, the primary antimicrobial compound found in oregano. Scientists are seeking to determine if a carvacrol-enhanced spinach purée film can protect salad greens from *E. coli* contamination and growth.

16 July 2008

AFN Food for Thought

<http://www.ausfoodnews.com.au/2008/07/16/spices-to-eliminate-foodborne-diseases-and-improve-food-safety.html>

## MICROBIOLOGY

### Bacteria strain shows promise as natural meat preservative

Recent research published in the journal of Food Microbiology (Sapro et al., 2008, June: vol 25(4):607-615) reports that a specific strain of *Enterococcus faecalis* inhibits harmful bacteria without compromising the taste and texture of sausage. According to the authors, the study demonstrates that adding *E. faecalis* CECT7121 during the manufacture of craft dry-fermented sausages provides an alternative for biopreservation. The genus *Enterococcus* is a member of the lactic acid group of bacteria (LAB). This group of organisms have antimicrobial activity and play an important role in fermentation and preservation of food. Unlike other *E. faecalis* strains, this strain does not contain genes for enzymes that would affect the quality of meat. Over time, the strain produced a minimum pH value of 5.1 in sausage. The researchers report that the test group of sausages had lower viable counts of Enterobacteriaceae and *Staphylococcus aureus* at the end of fermentation, and no viable Enterobacteriaceae or *S. aureus* were detected at the end of the drying period. Also, they found no difference in colour, aroma, taste or overall quality compared to controls.

11 June 2008

FoodQualityNews.com

<http://www.foodqualitynews.com/news/ng.asp?n=85838-natural-preservatives-sausages>

### Salmonella prevalence in antibiotic-free pigs

A recent article in the journal of *Foodborne Pathogens and Disease* (Gebreyes et al., 2008, April vol 5(2):199-203) reports that pigs raised without antibiotics have a higher incidence rate for *Salmonella* than pigs raised by conventional pork standards using

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antibiotic-supplemented feed. The North Carolina-based study involved testing of 324 pigs from antibiotic-free farms and 292 pigs from conventional farms. *Salmonella* was detected in greater than 50 percent of pigs raised without antibiotics. Elevated rates of *Toxoplasma gondii* and *Trichinella spiralis* were also detected in the antibiotic-free pigs. The authors emphasized that proper cooking of pork would eliminate *Salmonella*, if present, in antibiotic-free pigs,

1 April 2008

Foodborne Pathogens and Disease

<http://www.liebertonline.com/doi/abs/10.1089/fpd.2007.0071>

### **Control of *Listeria monocytogenes* in Ready-to-Eat Meats Containing Sodium Levulinate, Sodium Lactate, or a Combination of Sodium Lactate and Sodium Diacetate**

A recent study (Thompson et al., 2008, J Food Sci, vol 73(5): M239-M244) investigated the effect of sodium levulinate to prevent outgrowth of *Listeria monocytogenes* in ready-to-eat (RTE) meat products. Samples of bologna and turkey breast roll were formulated to contain 1%, 2%, or 3% (w/w) sodium levulinate, a 2% combination of sodium lactate and sodium diacetate, 2% sodium lactate, or no antimicrobial. Samples were sliced and inoculated with a 5-strain cocktail of *L. monocytogenes*, vacuum-packaged and stored for 0 to 12 weeks at refrigeration temperature. Counts were over  $10^7$  CFU/cm<sup>2</sup> on the control bologna after 12 weeks and over  $10^8$  CFU/cm<sup>2</sup> on the control turkey roll product after 8 weeks. A formulation of 1% or more sodium levulinate to bologna and 2% or more sodium levulinate to turkey roll prevented *L. monocytogenes* growth over 12 weeks of storage. A taste panel found no differences in the overall acceptance of the preparations of turkey roll or bologna.

June/July 2008

Journal of Food Science

<http://www3.interscience.wiley.com/journal/120083312/abstract>

## **MEAT ANALYSIS**

### **Instrument provides in-house, rapid enumeration of Total Viable Counts on meat**

The German company Aes Chemunex reports that its Bacti Flow Automatic Labelling System (ALS) allows real-time Total Viable Count (TVC) analysis of meat in-house, thus reducing the need to send samples to an external laboratory. While the cost of the equipment is comparable to external analysis, the company states that gains are

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realized in-process control and a testing time of 90 minutes. The Bacti Flow ALS is also used for testing of dairy, juice, and fermented milk products. The company said that the equipment has been successfully evaluated on raw minced meat, pork, beef, turkey, deep frozen meat, and final products such as ham, boiled sausages and smoked pork products. The instrument permits high throughput with an automated analysis of 23 to 48 samples per batch and up to 25 tests per hour. Using flow cytometry, only viable microorganisms are labelled and detected.

FoodProductionDaily.com

10 June 2008

<http://www.foodproductiondaily.com/news/ng.asp?n=85805-aes-chemunex-tvc-salmonella-efsa>

### **New fat testing method for manufacturers**

AOAC International has approved Official Method 2008.06 that utilizes microwave energy for direct moisture analysis and Nuclear Magnetic Resonance spectrometry to measure fat content in raw and processed meat and meat products. The CEM SMART Trac is reported to offer a direct measurement of fat content and does not require hazardous chemicals or constant calibration. Last year, CEM launched a protein analyzer that provides measurements in two minutes.

3 July 2008

AFN Food for Thought

<http://www.ausfoodnews.com.au/2008/07/03/new-fat-testing-method-for-manufacturers.html>

## **PROCESSING**

### **Food processing technology companies merge**

CEDAR Creek and SASTEK plan to merge to grow their local and overseas software and hardware business. According to the companies, the merged entity will provide software and hardware systems, labelling solutions and services to clients. The resulting company's services will include software systems providing yield control, traceability, and production performance monitoring, and hardware systems. The new entity will operate under the Cedar Creek name and be a leading technology company for the meat processing, fresh produce and processed food sectors in Australia and New Zealand.

18 Jul 2008

Meatinternational.com

<http://www.meatinternational.com/news/processing/>