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Advanced Food Safety & Meat Microbiology School

October 10–12, 2023

UW Meat Science & Animal Biologics Discovery Building

Registration now open!

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[Registration](#) closes Sept. 30 for **UW-Madison's Advanced Food Safety & Meat Microbiology School**, Oct. 10–12, organized by **FRI and UW Meat Science personnel**. This three-day course will include lectures and breakout sessions led by nationally and internationally recognized industry and academic authorities in their fields and will include numerous hands-on and interactive exercises.

In the News

Since early September, at least **351 children who attended daycare** at 11 facilities in **Calgary, Canada**, have been sickened in an ***E. coli* O157:H7** outbreak linked to food prepared by a shared kitchen.

- At least 38 children have required hospitalization, with some reported to have **hemolytic uremic syndrome (HUS)**. No deaths have been reported.
- An additional 26 cases of **secondary transmission** of the outbreak strain to other children, parents, and possibly a grandparent have been reported, and more cases are still possible.
- The food source is speculated to be undercooked beef in meatloaf served to the children in the days before the outbreak; although testing has not yet found the outbreak strain in any food samples tested.



have identified additional violations (cockroaches, pooled water on the floor, food thermometer stored with uncleanable items, and **transportation time over 90 minutes of cold foods to other locations without temperature control**).

- In an emotional announcement, Alberta Premier Danielle Smith announced that **the province will give the families \$2,000 CA for each child that was sickened**.



A 14-year-old boy from Massachusetts died shortly after eating a **Paqui “One Chip Challenge” chip**. The chip, which was marketed in a coffin-shaped box with multiple warnings, was coated with a seasoning made from Carolina Reaper peppers (1.7 million Scoville units) and Naga viper peppers (1.4 million Scoville units). The company has sold “One Chip Challenge” chips for six years, with a new chip seasoning each year. Several anecdotal reports of other children requiring emergency medical treatment or hospitalization after eating a “One Chip Challenge” were published in 2022. Although uncommon, serious adverse effects (esophageal rupture, cerebrovascular vasoconstriction, acute myocardial infarction, for example) have been associated with hot

pepper consumption. Results from an autopsy have not yet been released, but the Paqui “One Chip Challenge” chips are being recalled and other investigations are underway.

Numerous new outbreaks have been reported **around the U.S.**

- In **Chicago**, at least 20 people were sickened (with 10 requiring hospitalization) since Aug. 29 with **Salmonella** after eating **prepared food** at the taqueria Carniceria Guanajuato.
- In **Minnesota**, eight cases of **cryptosporidiosis** and one case of **E. coli O111:H8** were linked to **raw milk** from a farm in Hillman. **The milk may have been labeled as natural A2 milk**, and consumers may not have known that the milk was not pasteurized.
- A **Bacillus cereus** outbreak in **Stony Brook, N.Y.** has sickened at least 28 people, including some who required hospitalization. **Rice** served at the Kumo Sushi and Steakhouse restaurant on Sept. 9 appears to be the source of the outbreak.
- Four students at the **University of Arkansas** were hospitalized after infection with **E. coli O157:H7**, with about 100 students reporting symptoms. The outbreak began around Aug. 18 (classes at the university began Aug. 21) and does not appear to be linked to the university’s dining facilities.
- **A multistate outbreak of Salmonella Newport** that sickened at least eight individuals was reported at the end of August. No food source has yet been reported.
- At least 11 cases have been reported in a **multistate Cryptosporidium outbreak** first announced Aug. 30. The food source has not yet been identified.

Ice cream and its potential for harboring Listeria monocytogenes have also been in the news of late:

- **Milkshakes** served at a Tacoma, **Wash.** Frugals restaurant between February and July 2023 have been linked to a *Listeriosis monocytogenes* outbreak that sickened six people, killing three. All of those sickened were reported to be **immunocompromised**. Milkshake samples were collected from the restaurant and were found to contain the outbreak strain.
- Last month we reported on the **L. monocytogenes**



U.S. This month, FDA announced that the facility where the ice cream was manufactured (Ice Cream House of Brooklyn, N.Y.) has recalled additional dairy and nondairy products bearing the **Ice Cream House logo** following local health department testing at the facility that revealed the outbreak strain was present in at least one ice cream product and also in environmental samples. All products manufactured at the facility have now been recalled.



- **Life Raft Treats** has recalled several ice cream products (“Not Fried Chicken” and “Life is Peachy”) due to a state health department’s finding of ***L. monocytogenes* in ice cream product samples**. No illnesses have been reported.



Outside of the U.S., numerous outbreaks with links to foods or the environment have been reported in the last month:

- **A botulism outbreak in France** has been linked to **house-preserved sardines served at a wine bar in Bordeaux**. Many of those sickened were **rugby fans** from other countries (including the U.S.) who were in town for a World Cup tournament. Up to 25 people have been sickened, and at least one death has been reported. The cook at the restaurant admitted that some of the jars of sardines had a **strong smell** and were thrown away, while other jars seemed fine and were served to customers.
- **In Portugal**, more than 200 people were sickened soon after eating **broa de milho (a traditional cornbread)**. Samples from patients, the bread, and the flour all revealed high levels of the tropane alkaloids **atropine and scopolamine**. The alkaloids are believed to have been present due to contamination of the flour with **seeds from the *Datura* genus**, which are common weeds (such as **jimsonweed**) found in **cultivated fields**.
- **In India**, a dozen students at a hostel became seriously ill after consuming a dinner of **bamboo curry**. The symptoms, including breathing difficulties, are believed to be the result of **cyanide poisoning**. **Bamboo shoots contain cyanogenic glycosides** that can sometimes be converted into hydrogen cyanide when the plant cells are disrupted.



Government and Regulatory News



In late August, FDA announced that its first deputy commissioner for the **agency’s new unified Human Foods Program (HFP)** will be James Jones. Jones will begin on Sept. 24. Reporting directly to the FDA commissioner, Jones will oversee and have decision-making authority over all entities within HFP, including the **Center for Food Safety and Nutrition (CFSAN)**, the **Office of Food Policy and Response (OFPR)**, and **food-related activities in the Office of Regulatory Affairs (ORA)**. James’s past history includes experience as a pesticide regulator in the **EPA** and also serving

on the **Reagan-Udall Foundation expert panel** that provided **operational recommendations for FDA’s food-related activities**. For commentary on his appointment, read [here](#) and [here](#).

Last month, **USDA FSIS** released its ***Clostridium***



the **2017 Appendix B guidelines** established that **large mass non-intact products could not be cooled fast enough to meet the new recommended cooling options for uncured products (first stage cooling**

from 120 to 80°F in <1.0 hour; second stage cooling from 80 to 55°F in <5.0 hours).

As a result, FSIS's 2021 Appendix B recognized the thermodynamic limitations in the revised cooling guidelines and allowed continued use of the cooling recommendations from the 1999 version of Appendix B (six hours between 120 and 55°F, linear cool) while additional research was completed. In response to concerns that the less-stringent 1999 cooling regimen might result in *C. perfringens* growth that exceeded the 1-log growth performance standard, FSIS collected 494 products from retail for the survey. Of these samples, only one had a *C. perfringens* level (1.08 log cfu/g) above the level of detection, far below the level of potential food safety risk (>6 log cfu). However, FSIS stated that because this study was not designed to obtain comprehensive baseline data, **changes to the performance standards for no more than a 2-log increase during cooling were not currently justified.**

Current Literature

Can you predict the food source of an *L. monocytogenes* isolate based on its genomic sequence? A [new report](#) from CDC researchers used **machine learning** to analyze and model sequence data from isolates collected from known food sources from five categories (meat, fruit, vegetable, dairy, and seafood). **The final model had an overall accuracy of 49% in predicting the correct food category for an isolate** (with a naïve prediction accuracy of 28%). The highest accuracy (65%) was obtained for isolates from **meats**.



A new article in Morbidity and Mortality Weekly Report [warns](#) that **ready-to-eat soy products such as tofu** may be associated with **non-typhoidal *Salmonella* outbreaks**. The report highlights a **2021 Canadian outbreak in which *Salmonella* Typhimurium was linked to ready-to-eat seasoned tofu**, leading to 38 illnesses. Tofu and other soy products are not commonly associated with foodborne disease outbreaks, and this is the first time that tofu has been associated with *Salmonella* Typhimurium. The seasoned tofu in this outbreak **did not undergo a heat treatment** after the addition of seasoning to the product

(while seasoned tofu from the from the same facility that did undergo heat treatment was not associated with any illnesses).

Wild boars and their meat in central Europe are known to have **high levels of radioactive cesium (^{137}Cs)**, with levels exceeding regulatory limits by a factor up to 25. But where does this ^{137}Cs come from, asked scientists [in a new report](#)? From the **Chernobyl nuclear reactor accident** in 1986, or from **fallout from nuclear weapon explosions in the 1960s**? Using knowledge of the characteristic ratios of different cesium isotopes (^{135}Cs vs. ^{137}Cs) following a nuclear explosion (yielding



isotopes in wild boar meat was measured. The ratio for this boar meat varied between 0.67 to 1.97, depending on the region of Bavaria where the boar lived. This **isotopic signature analysis** demonstrated that **both the old nuclear weapon testing and the Chernobyl nuclear accident contributed to the ^{137}Cs contamination in wild boars**, but that the older nuclear weapons were a much more important source of the ^{137}Cs contamination than had previously been thought.



A new [general interest paper](#) in the Journal of Food Protection takes a **deep dive into the considerations for food sample size determinations**. It also presents a **web-based application (freely available)** that can help users make such determinations for **simple random sampling plans** based on their objective for random sampling (estimating prevalence, detecting a contaminated product,

estimating maximum prevalence, or comparing estimated prevalence with a threshold value).



The 2nd annual Wisconsin Meat Industry Coalition Conference will be held Nov. 1–3, 2023, at the Chula Vista Resort in the Wisconsin Dells. The meeting is intended for livestock producers and meat

processors of all sizes, as well as others affiliated with supporting these groups. More details can be found [here](#).

The UW-Madison Meat Science and Animal Biologics Discovery program and USDA FSIS will be hosting the 2023 Wisconsin Food Safety Summit on Nov. 8. This seminar will address current topics in food safety, featuring speakers from USDA FSIS and UW-Madison. More information is available in [this brochure](#).

IAFNS is hosting its online/virtual Science Innovation Showcase on Dec. 12–14 from approximately 12–5 p.m. ET. This science-first and science-focused event will bring together scientists from multiple sectors at all stages of their careers, from graduate students to professors, technical experts to CEOs. Attendees will have the opportunity to engage in dialogue and discussion on the data, technology, and science being applied across the food and beverage ecosystem.



Cheesemakers in Italy are encasing edible microchips into the rind of their Parmigiano-Reggiano cheese wheels to thwart counterfeiters of this protected cheese variety. The chips, which are made of silicon and are about the size of a grain of sand, are placed on the casein labels, which are edible labels made of casein used to mark batch numbers and dates on cheese wheel surfaces. Buyers can scan the microchip to ensure that the unique serial number that is pulled up corresponds to an authentic wheel.

It's the 20-year anniversary of Starbucks's Pumpkin Spice Latte! In other PS news, here is this year's collection of new and strange pumpkin-spice-infused products that you can purchase. (One of them is not a real product, however... can you guess which one?)

[Henning's Pumpkin Spice Cheddar Cheese](#)



[Pumpkin Spice Bone Broth Powder](#)



[Hefty Ultra Strong Tall Kitchen Trash Bags \(Cinnamon Pumpkin Spice\)](#)

[Busch Pumpkin Spice Dog Brew \(for dogs, really!\)](#)

[Adam's Pumpkin Spice Car Detail Spray](#)

[Pumpkin Spice Avocado Oil "Caviar" \(contains no](#)



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