



# Newsletter

## World class food lab “in our backyard”

One of the world’s leading laboratories in food processing technologies sits on the West Lafayette campus of Purdue University.

Erik Kurdelak, Manager of the Food Science Pilot Plant Lab (FSPP) described the multiple functions of the facility recently to members of IEHA’s Food Protection Committee, and said the FSPP does major work for industry and sits right “in our backyard”. As part of Purdue’s Department of Food Science, the FSPP helps industry test and develop new food processing technologies that range from non-thermal pas-



teurization methods, to new forms of aseptic packaging.

The FSPP has all the equipment necessary to conduct a wide variety of tests, from retorts to extruders to vacuum evaporators.

Erik says they collaborate with international leaders, heads of the food industry, plus federal and state regulators, and those in-

involved with food security. A delegation from China visiting the U.S. insisted on touring the lab, an example, he said, of the FSPP’s worldwide interest.

Erik stressed that the lab is not a “process authority” and that any food tested is never for consumption.

The number one function of the lab is to assure faculty success by assisting and enabling research initiatives. He added that students studying Food Science at Purdue have a 100% job placement

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### Special points of interest:

- *The rule does not say “shatterproof.”*
- *Heat lamps may need shielding, but lighting in food storage areas usually does not.*
- *The type of lighting source (like LEDs) does not change the shielding requirement.*

## What you should know about...

### Light protective shielding

The food code specifies that lighting over exposed food, clean equipment or utensils, or unwrapped single-service or single-use items must be shielded, coated, or otherwise shatter-resistant (Sec. 410). The need for this is obvious - keep bro-

ken glass out of food.

The rule does not say shatter-proof, an error inspectors sometimes make. Imagine (but don’t actually do it!) holding a bulb waste high and dropping it. Will it shatter? Then it needs protected. Bulbs made from thick glass don’t need shielded.

LED (light emitting diode) lights are becoming common for their energy efficiency and long life, but this doesn’t change the protection requirement.

Heat lamps typically do need shielded, but lighting in food storage areas where everything is packaged doesn’t.

## What is a “market withdrawal” vs. “recall”?

Readers have heard of food recalls, when a manufacturer decides to attempt to retrieve a product that has been sold. This happens when there is a question about the food’s safety.

But the term “market withdrawal” had crept into the food vocabulary. How does it differ from a recall?

Recall generally means the product has been sold and may be in the possession of consumers and no longer under the control of

the manufacturer or distributor.

Market or product withdrawal indicates the product is in distribution but may not have reached any consumers. According to FDA, the product may have a minor violation and not subject to any action. The intent is to prevent the product from reaching consumers.



“Recalls are actions taken by a firm to remove a product from the market. Recalls may be conducted on a firm’s own initiative, by FDA request, or by FDA order under statutory authority,” according to FDA. Recalls may be Class I, II, or III, with Class I being the most serious, potentially leading to fatalities.

Food establishments may post signs on display shelves indicating a product has been recalled.

## General Mills flour recall grows to 45 million pounds

After more people were confirmed with E. coli infections connected to one of the flour brands produced by General Mills’ Kansas City, Missouri plant, the company has recalled an additional 15 millions pounds of flour. This brings the total recall to 45 million pounds, a “small percentage” of the total flour produced, say company officials, and reported by *Food Safety News*.

The expanded recall was initiated after lab tests showed more

**“It’s too soon to say whether there is a higher prevalence of E. coli in the flour than normal.”**

infected people had E. coli of the same strain as traced to the flour.

The E. coli strain O121 or O26 has been the common pathogens in 46 illness cases, including one in Indiana. The company has repeated its advice for those using its flour not to consume raw dough and not cross contaminate. Company spokesmen say it’s too soon to say if there is a higher prevalence of E. coli in flour than normal, considering how flour is processed.

## FDA bans Triclosan from hand sanitizer products

Saying their effectiveness has not been proven, The Food and Drug Administration has called for manufacturers to stop marketing over the counter hand antiseptic wash products that contain Triclosan, Triclocarban, and similar ingredients.

The FDA says manufacturers did not provide the necessary data

to establish that ingredients were Generally Recognized as Safe (GRAS) as required or prove that such products were more effective than plain soap and water for hand-washing.

The agency proposed the rule in 2013 after some data had suggested some of the active ingredi-



ents may pose long term health risks, like bacterial resistance or hormonal effects.

Manufacturers have already started phasing out the banned ingredients from products. The rule does not apply to consumer hand sanitizers or wipes containing alcohol.

## What's bugging you - dealing with produce

Almost half (46%) of recent foodborne illness outbreaks are connected to fresh produce. And 36% of those are caused by *E. coli*.

Jennifer Coleman, Food Safety Farm Consultant with ISDH, says efforts to improve food safety with all produce was prompted by foodborne illness outbreaks in recent years, especially those related to cantaloupe, one of the largest such outbreaks ever documented.

Jennifer says the standard answer for produce safety is to rinse it in running water, but, she adds, we're learning that rinsing is ineffective in removing pathogens. It's important that rinsing be done after harvest because after a few hours, pathogens like *Salmonella* can attach permanently to produce surfaces. She adds, food safety must begin at the farm, hence the creation of positions like hers with ISDH.

Pathogens can attach themselves to textured surfaces (like cantaloupe) making them difficult to remove. Cantaloupe could be



*Pathogenic bacteria can attach itself to produce and even grow, if conditions are right. Removing the pathogens can be impossible.*

scrubbed with a suitable brush, but scrubbing won't work on other produce, like berries, without destroying it.

The level of food safety knowledge is lacking at the farm level, evidenced by conditions Jennifer has observed, like heavily soiled produce handling equipment, use of non-potable water, and a lack of convenient toilet facilities for farm workers. Jennifer adds that human pathogens can

**“Pathogens can attach themselves to textured surfaces of produce within hours, making them difficult to remove.”**

adhere to the surface of produce quickly and create a biofilm making it even harder to remove.

The problem is complicated by the fact that 70% of the world's food crop comes from land in developing countries that may be irrigated by sewage or sewage-contaminated water.

Producers do often wash fruit and vegetables, but often the water becomes contaminated, and the same water may be reused. “One contaminated fruit in wash water can lead to hundreds,” Jennifer says.

She says education is a challenge since many growers don't believe there's a problem, unless they've been victims of an outbreak. Overhead sprays, instead of dunking, might help, or the use of

proper chlorine solutions.

Change has to come at the farm, says Jennifer, as washing or even sanitizing by consumers are only marginally effective.

## World class lab (continued)

*(Continued from page 1)*

rate because of their training and hands-on experiences.

So who can take advantage of the FSPP? Anyone, Erik says, who is developing a new product or making changes to an existing one. “We talk to them in plain English,” he said, “not in highly

technical language.” Businesses who don't have adequate research and development capacity will call, and those starting new ventures. Areas involving fermented foods are popular.

Erik said he is available to consult with local health department inspectors who may have questions.

They do field questions from the highly sophisticated, to the “difficult to answer.” One of his favorite questions was, “Can you make beer out of peanut butter?”

Erik Kurdelak can be reached via email at “ekurdela@purdue.edu”

## New dish machine testing solution offered

Thermoworks has announced “DishTemp” that is designed to replicate the surface of a plate or utensil to measure the final sanitizing temperature in high temperature dish machines.

Currently, inspectors must use heat sensitive tapes adhered to a dish, or a maximum registering thermometer that usually must be placed inside a protective case before exposing it to the heat of a dish machine. “DishTemp” simulates a plate and measures the true surface temperature, ac-

ording to Thermoworks.

The unit is placed in a dish rack along with other items to be cleaned. It is about 5 inches in diameter so unlikely to be dislodged during a wash cycle.

The company claims an accuracy of +/- 0.9° F. and is waterproof with an IP66 rating. It is also NIST-Traceable



with a calibration certificate.

It operates with a common button battery with an expected life of around 5,000 hours.

The DishTemp has a retail price of \$59. See [www.thermoworks.com](http://www.thermoworks.com) to learn more.

(Note: Neither IEHA nor the Food Protection Committee recommends or endorses any particular product or service. This is information presented about a product that may be of interest to readers.)

## Bill introduced to “standardized” food date labeling

U.S. Senator Richard Blumenthal of Connecticut and Congresswoman Chellie Pingree from Maine have introduced a bill to simplify the date marks on food sold in stores. The current variety of “sell by,” “use by,” or “expires” date marks confuses consumers (and some inspectors!) they say, leading to 90% of Americans discarding good food. They want a simpler system.

Date marks are typically not based upon safety but rather

**“This bill would set a national standard and distinguish foods labeled for quality vs. food safety.”**

more to do with inventory control or food quality, and are set by the manufacturer.

This bill would set a national standard and distinguish foods labeled for quality vs. food safety, and also indicate that foods dated for quality may still be sold.

The bill has been referred to a Congressional committee, but for political reasons, Govtrack, gives it a 1% chance of passage. There is wide spread support so it’s possible the bill will move forward.

## Pop up restaurants making their way to Indiana

*Editor’s note - The first part of this article first appeared in the Spring, 2015 issue of the FPC Newsletter.*

What is a pop up restaurant? According to the National Restaurant Association, it’s a growing trend in dining, although the concept has been around for awhile. It is what it sounds like - a tempo-

rary restaurant sprouts up suddenly in an unexpected locale, perhaps a street corner, rooftop, or abandoned building.

Why do operators try this? For one, it’s cheaper than a brick and mortar restaurant. Also it can have a unique appeal to customers who want something different as the facility can offer a limited

menu not available close by.

But this trend means local health department inspectors must be vigilant in watching for pop-ups to appear. Some may choose to operate over 14 days, so are treated as permanent establishments and need to meet the food code requirements.

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## Can UV light oven be key to safe produce?

A professor at the University of Delaware believes his “UV light oven” could be key to killing pathogens on fresh produce.

Dr. Haiqiang Chen believes research into his product that combines ultraviolet light (UV) with water that is stirred might be just what is needed to provide consumers with clean produce.

“At home, when the fresh produce reaches you, it might not be completely free of foodborne pathogens,” Chen said. “Typically, consumers don’t wash fresh produce if it has been pre-washed, and those who do generally just wash it a couple of times with tap water. There’s been nothing that’s really effective that you can use at home to ensure clean produce, so the idea was to develop something that can be used in the home.”

Chen, a professor of food science in the University of Delaware’s College of Agriculture and Natural Resources, says the oven will resemble a microwave in appearance and be “user friendly.” There will be a simple control



panel to allow users to adjust treatment and UV intensity. Dr. Chen believes that a commercial version of his oven could be used commercially, like in restaurants or other commercial kitchens.

“The decontamination comes through two sources, UV and water. The UV will kill pathogenic bacteria and viruses but the bad thing about UV is that it doesn’t penetrate through solids, although it can penetrate through clear water,” Chen said. “The water will wash off the pathogens from a food surface and whenever they get into the water, they will be killed almost immediately.”

**“For spot reduction, UV is a lot better than tap water, killing 99.999% of the salmonella.”**

Testing the process included using plain tap water and simulated salmonella pathogen contamination of lettuce, spinach, tomato, blueberry, and strawberry samples. Contamination was either concentrated in one spot, or as a worst case scenario, covered the entire piece of produce.

Dr. Chen found that the UV light oven decontaminated the fresh produce much more efficiently than just tap water, killing 99.7% of the salmonella. Rinsing with tap water alone removed about 59.3% for produce contaminated throughout all surfaces.

“For spot reduction,” Chen said, “UV is a lot better, killing 99.999% of the salmonella on tomatoes.”

Dr. Chen said the word “oven” might scare some users away, but he stressed the produce is not heated in any way and there is no negative effect on taste.

(From UDaily  
University of Delaware)

## Pop up restaurants (continued)

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### Pop ups evolving?

Now it appears that the pop up restaurant idea is emerging in Indiana and may be taking a slightly new twist. Not only are such facilities showing up in Indiana’s more populated areas, but they may exist for only one day, and able to avoid the local health

department, and therefore, food safety requirements. Social media, like Facebook and Twitter, are common ways to let customers know where the foodservice will be, and when.

There is a question as to



whether such one-day events are “private gatherings” and therefore exempt from the rule, but the fact that they advertise seems to make them “public”.

Inspector vigilance is required! Tap into the social media the vendors use.

## Indiana Environmental Health Association Food Protection Committee

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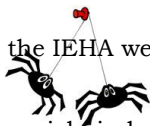
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### IEHA Mission:

*To promote, preserve and protect environmental public health in the State of Indiana, and to encourage a spirit of cooperation among all environmental health stakeholders while serving its members in the regulatory, industry and academic communities.*

The **Food Protection Committee (FPC)** is one of four standing subcommittees of the **Indiana Environmental Health Association**. The committee meets approximately four times per year with dates and locations chosen by the members. Its focus is to discuss food safety related issues of interest to its members. While all IEHA members and guests may attend meetings, only voting members, as specified in the IEHA Constitution and Bylaws, may vote. Meeting information is disseminated by email. To be added to the email list, contact one of the co-chairs, or your IEHA chapter representative.

**FPC Co-chairs:** Sharon Pattee, Jennifer Asbury.

**FPC Newsletter Editor:** Ed Norris

## Morsels

- *The Food Protection Committee has been instrumental in obtaining good speakers for the IEHA Fall Educational Conference in Michigan City. Unfortunately, one of the most highly anticipated speakers, Bill Marler of the law firm Marler Clark in Seattle, could not attend. He was replaced by one of his law partners.*
- **1,300,000,000** - the amount of food in tons The Food and Agriculture Organization of the United Nations (FAO) says is wasted every year world wide. That's a third of all food produced for human consumption. By food type, nearly half of all fruits and vegetables grown is wasted, which means also wasting resources, like water and energy used in food production. The FAO says this then leads to increased greenhouse emissions from decaying food.
- *Can food product reviews on Amazon predict future recalls? A research team at the University of Washington hopes to prove just that. According to the University's eScience Institute, the project, headed by Dr. Elaine Nsoesie, hope to use reviews that consumers post online to predict whether a product will be recalled. To do this, the team will "mine and integrate a large corpus of data posted to understand trends and features in unsafe food product reports." The team has already uncovered a review on a food issue and that product was later recalled.*

