

Dedicated to the promotion of high standards in environmental health for the general welfare of the public

# NEBRASKA

## Environmental Health Association

### NEHA News

#### PRESIDENTIAL UPDATE

Greetings NEHA membership,

I hope everyone had a fantastic summer and with most of our workloads dwindling, I hope everyone takes the time to enjoy fall.

We have a lot going on this fall, including:

- \* the Regional 4 NEHA Conference (Oct. 7th & 8th),
- \* our Fall Educational Conference (Oct. 21st),
- \* the Food Safety Task Force meeting (Oct. 20th), and
- \* the 2015 Annual PHAN Conference (Sept. 22-23rd).

If you have not registered for our educational conference or the Regional 4 NEHA conference, it's not too late. Our early registration ends October 10th and NEHA Region 4's early registration ends September 25th. Walk-in and late registrations are welcome to both events, but the cost is increased. Please check the registration forms if you have questions. Registration forms can be found on the Nebraska EHA website (<http://www.nebraskaneha.com/>) and the Iowa EHA website (<http://www.ieha.net/>).

The NEHA Board always welcomes any comments and ideas from its members to make the association stronger and further its mission. Please feel free to contact a Board member or myself at [allen.brown@douglascounty-ne.gov](mailto:allen.brown@douglascounty-ne.gov). I have enjoyed working with the Board and am grateful for the opportunity to serve as president.

*Allen*

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#### 2014-2015 BOARD

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#### SAVE THE DATES!

Nebraska EHA Educational Conference will be held October 21, 2015 at SAC Museum in Ashland, NE.

NEHA Region 4 Educational Conference will be held October 7-8, 2015 at the Sullivan Brothers Conference Center in Waterloo, Iowa.

Food Safety Task Force Conference will be held October 20, 2015 at the Nebraska Educational Telecommunications Meeting Room, 1800 North 33rd Street, Lincoln

## SMARTPHONES IN PUBLIC HEALTH

### Study Finds Smartphones Can Improve Food Safety Inspections

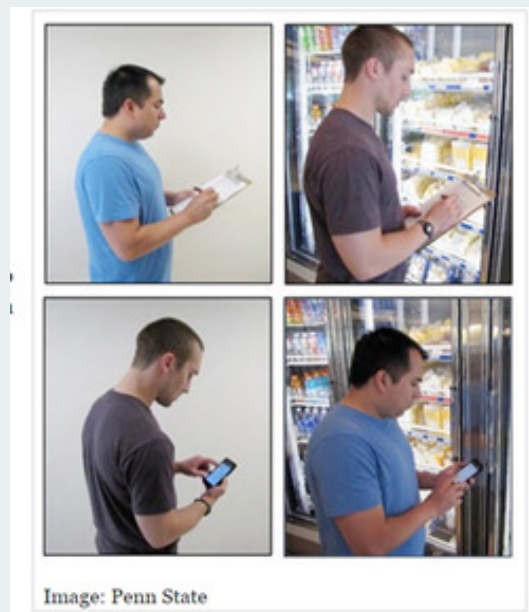
Smartphones might be an important tool for food safety inspectors because of their inconspicuousness.

Researchers at Penn State's College of Agricultural Sciences have found that phones used in place of clipboards can improve the quality of data collected during observations.

According to a phenomenon Hawthorne Effect, people sometimes change their behavior because they know someone is watching.

For example, if a food handler sees a researcher or inspector with a clipboard, they know they're being watched and might adhere more strictly to safe handling practices than they regularly would. In this way, the Hawthorne Effect negatively impacts the quality of information collected.

But if the food handler hardly even notices the researcher or inspector looking at their phone (because so many people these days are looking at their phones), then the observer can covertly collect the information they need.



The Penn State researchers conducted a survey to assess public perceptions of smartphone use in a retail setting. Participants viewed images of individuals using either a smartphone or a clipboard in a retail environment and provided open-ended responses.

The results showed that 95 percent of participants associated images of clipboard use in a retail setting with research and inspection, but none said the images of smartphone use in the same setting suggested observation. The findings were published this month in *Food Protection Trends*.

“We are so into our phones today, and everyone has one and carries it around, so it easily can be used as a nonthreatening tool to make direct, concealed behavioral observations, and no one will ever realize you are doing it,” said Robson Machado, a doctoral candidate in food science. “An observer can just pretend to be texting or fiddling with the phone, while monitoring the interactions between customers and workers in retail establishments, such as supermarket delicatessens.”

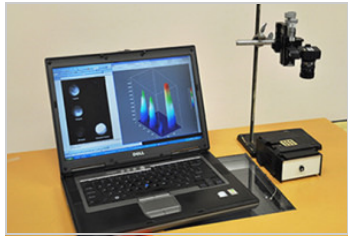
The researchers also worked with a software developer to create an app for documenting direct concealed observations of food handlers, including the creation of checklists to record aspects such as hand hygiene, the adequacy of hand-washing facilities, the temperature in coolers holding ready-to-eat foods and the presence of potentially hazardous foods. The app allows observers to easily add photos, audio, videos and open-ended notes to their reports.

“This study should be of interest to researchers, regulatory personnel and food industry professionals who are seeking ways to evaluate the food safety behaviors of food handlers,” Machado said.

Source: <http://www.foodsafetynews.com/2015/10/researchers-find-smartphones-can-improve-food-safety-inspections/#.VhHdOPIVhBc>

## USDA RESEARCHERS DEVELOP CAMERA SYSTEM TO DETECT ACTIVE SHIGA TOXIN

Scientists at USDA's Agricultural Research Service Western Regional Research Center in Albany, CA, have come up with a less-expensive way to detect biologically active Shiga toxin, a product of pathogenic *Escherichia coli* serotype O157:H7.



It is estimated that *E. coli* O157:H7 causes 73,000 cases of food poisoning and more than 60 deaths in the United States each year.

The new system involves the use of a camera and a light-emitting source to biologically determine active toxin.

Affordable, sensitive devices like this are needed to reduce the sources and incidence of foodborne illness, says Reuven Rasooly, who works in the center's Foodborne Toxin Detection and Prevention Research Unit. Current immunological tests, such as the ELISA, cannot distinguish between the active and inactive form of Shiga toxin.

"For example, in food processing, a heat-treatment method inactivates the toxin, but the ELISA cannot tell whether the toxin is active or inactive in the processed food," Rasooly says. "Determining the activity of the toxin is very important, because the active form poses a threat to humans. The inactive form is nontoxic."

Rasooly says that while the cost of technology used to detect Shiga toxin and other pathogens is not a concern for wealthy countries, the equipment is typically too expensive for devel-

oping ones, where the risk of foodborne illness and outbreaks is greatest. The camera system makes it easy and affordable for diagnostic labs that cannot afford a fluorometer, which is typically used to detect toxins.

"We demonstrated that our system is effective in measuring Shiga toxin activity compared with equipment costing 100 times more," Rasooly says. "A fluorometer costs about \$35,000, whereas the camera in this experiment costs \$300."

Scientists constructed a fluorescence detection system using a camera and light source to measure GFP (green fluorescent protein) in a cell-based assay. A portion of a Shiga toxin-containing food sample was incubated with cells designed to produce GFP. The toxin in the sample inhibited the synthesis of GFP — reducing GFP production in relation to the amount of toxin present. The greater the toxicity, the less fluorescent the cells were.

Filters used with the light source and camera blocked wavelengths (signals) that would interfere with precise measurements of fluorescence.

"We obtained these signal levels by taking a picture with a camera and analyzing the image with a free, available computer software that determines average pixel intensity," Rasooly explains.

The camera method, which can easily be adapted for detecting other foodborne toxins, was compared to a commercial fluorometer for detecting active Shiga toxin, Rasooly adds. Both instruments had the same level of toxin detection.

Source: <http://www.foodsafetynews.com/2015/10/usda-researchers-develop-camera-system-to-detect-active-shiga-toxin/#.VhHiKvVhBc>

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*"Environmental pollution is an incurable disease. It can only be prevented."* Barry Commoner

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### LawAtlas.org: A DETAILED, COMPREHENSIVE RESOURCE FOR PUBLIC

Which states ban texting while driving? What are the requirements in your state for keeping kids safe in cars? How many state have laws to reduce harm from sports concussions?

Wouldn't it be great to be able to find the answers to these questions and more in one place? Now you can, thanks to DHHS which developed a unique, comprehensive resource.

LawAtlas tracks laws and regulations related to public

health's core mission of keeping people safe and health. Topics on the website include: alcohol, tobacco and other drugs, chronic diseases and injury, disabilities, disasters and emergencies, environmental health, foodborne illnesses, health professions licensure, maternal health, children and families, mental and behavioral health and seniors and aging.

The website can be found at: <http://www.lawatlas.org/>

## CONVERSATION BEGINS ABOUT HOW TO COLLECT ON-FARM ANTIBIOTIC USE DATA

You need data to know if interventions to foster the judicious use of medically important antimicrobial drugs are actually adopted and whether they have the desired effect in terms of both antibiotic use practices (also known as stewardship) and managing antibiotic resistance.

The federal agencies at the forefront of the resistance fight — the FDA, the Department of Agriculture and the CDC — held a public meeting to discuss possible approaches for collecting additional on-farm antimicrobial drug use and resistance data.



“Tracking the use of antibiotics is critical to knowing how we’re doing with stewardship,” said Beth Bell, director of the CDC’s National Center for Emerging and Zoonotic Infectious Diseases. “Good information about where, why and how animal antibiotics are used is the basic information needed to know when stewardship is going well.”

William Flynn, deputy director for science policy at the FDA’s Center for Veterinary Medicine, said that several different sources of data are needed to tackle antibiotic resistance. Such sources include sales, on-farm use, resistance trends in foodborne bacteria, animal demographics and health, and FDA inspection activities.

Some of these data are already available. For example, the National Antimicrobial Resistance Monitoring System (NARMS) tracks antimicrobial resistant patterns in bacteria isolated from humans, retail meats and animals at slaughter. And drug companies are required to report basic information about antibiotic sales to FDA under the Animal Drug User Fee Act (ADUFA).

On-farm antibiotics data are collected to a limited extent, but they are not representative or detailed enough to help inform antimicrobial stewardship.

At Wednesday’s meeting, Kathe Bjork gave an overview of some of the surveys USDA is considering to collect use data. These included on-farm longitudinal studies, a veterinary diagnostic laboratory longitudinal study, enhanced or focused surveys through the National Animal Health Monitoring System (NAHMS), or evaluation of data collected by producers.

One idea not mentioned by government officials Wednesday, but advocated by consumer groups during the public comment portion of the meeting, was to obtain use information from feed mills.

The finalized Veterinary Feed Directive rule requires feed mills to keep records of use, so it’s already an aggregation of data and close enough to the farm to allow for species distinction.

“No one single data source is going to answer all of our questions in a meaningful way,” Flynn said. “We need to pull together all these sources of info into an integrated report.”

The agencies outlined what such an integrated report might look like and said that their goal is to publish the first one in 2018.

FDA is collecting public comments until Nov. 30, 2015, on the suggested ways of collecting additional antimicrobial drug use data and other possible approaches.

Source: [http://www.foodsafetynews.com/2015/10/conversation-begins-about-how-to-collect-on-farm-antibiotic-use-data/#.VhPki\\_IVikp](http://www.foodsafetynews.com/2015/10/conversation-begins-about-how-to-collect-on-farm-antibiotic-use-data/#.VhPki_IVikp)

## QUIZ

- 1) What is the minimum internal cooking temperature for eggs that will be hot-held for service?
  - A. 135°F for 15 seconds
  - B. 145°F for 15 seconds
  - C. 155°F for 15 seconds
  - D. 165°F for 15 seconds
- 2) How many women will be diagnosed with breast cancer during their lifetime?
  - A. 1 out of every 3
  - B. 1 out of every 8
  - C. 1 out of every 17
  - D. 1 out of every 20
- 3) Jack o' lanterns originated in Germany.
  - A. True
  - B. False
- 4) The first popular Halloween candy in America was: ?
  - A. Snickers candy bar
  - B. Hersey chocolate bar
  - C. Tootsie roll
  - D. Peanut butter cup
- 5) Decorative contact lenses are a safe way to create a scary Halloween character.
  - A. True
  - B. False
- 6) Which of these is one of the most common types of injury on Halloween?
  - A. Eye injuries
  - B. Burns
  - C. Pedestrian injuries
  - D. All of the above



NEBRASKA ENVIRONMENTAL  
HEALTH ASSOCIATION

## EVENTS

**NEHA Region 4 Environmental Health Conference Oct. 7-8**  
The Iowa Environmental Health Association (IEHA) is hosting the 2015 NEHA Region 4 conference on October 7-8, 2015 at the Sullivan Brothers Conference Center in Waterloo, Iowa. Website: <http://www.ieha.net/>

### North Dakota EHA Fall Education Conference

The NDEHA FEC will be held on October 20-22 2015 in Jamestown, ND. More information can be found at: <http://ndeha.org/>

### Food Safety Task Force Conference

The NDA and UNL will be hosting the 11th Annual Food Safety Task Force Conference on October 20th, 2015 at the Nebraska Educational Telecommunications Meeting Room, 1800 North 33rd Street, Lincoln. See more information at our website: <http://www.nebraskaneha.com/home.html>

### NEHA FEC October 21, 2015

The Nebraska Environmental Health Association will be having our fall educational conference on October 21, 2015 at SAC Museum in Ashland, NE. See more information at our website: <http://www.nebraskaneha.com/home.html>

### Food Safety Consortium November 17-20th

The Food Safety Consortium will be held in Schaumburg, Il on November 17th-20th. The Food Safety Consortium conference is a summit meeting of Food Safety and Quality Assurance (FSQA) industry experts and government officials. To see a complete agenda go to their website at: [www.foodsafetyconsortium.org/](http://www.foodsafetyconsortium.org/)

- 1) D. According to the Nebraska Food Code 3-401.11 eggs made in response to a consumer's order and for immediate service can be cooked to 145°F, but if the eggs will be hot-held they must be cooked to 155°F.
- 2) B. According to the National Breast Cancer Foundation one out of every 8 females will be diagnosed with breast cancer during their lifetime and only one in a thousand men will ever be diagnosed with breast cancer.
- 3) B. Jack o' Lanterns originated in Ireland, says History.com. According to an Irish myth, a ghost named "Stingy Jack" and other spirits haunted people at this time of year. It became customary to place a candle inside a carved turnip on the Celtic Halloween—Samhain—holiday to frighten off these spirits.
- 4) C. The Tootsie Roll was America's first wrapped penny candy. It was created and sold by candy maker Leo Hirschfeld in New York City in 1896. The candy is named after his daughter, whose nickname was "Tootsie."
- 5) B. The FDA warns that decorative contact lenses can harm your eyes. Contact lenses require a prescription to fit properly. Using non-prescribed lenses can severely damage your eyes & even cause blindness.
- 6) D. Eye injuries from sharp objects or sharp objects; costumes that catch fire; and trauma from being hit by a motor vehicle are the most common injuries on Halloween.

QUIZ ANSWERS