



# The UMASH Connection Farms and People

A newsletter of the Upper Midwest  
Agricultural Safety and Health Center

umash.umn.edu

Volume 11  
Winter 2016

Upper Midwest  
Agricultural Safety  
and Health Center

1260 Mayo  
(Del Code 8807A)  
420 Delaware St SE  
Minneapolis, MN 55455

612-625-8836

umash@umn.edu



Like us on Facebook



US Ag Centers  
YouTube Channel

ONE HEALTH IN  
AGRICULTURAL  
SAFETY AND HEALTH



UMASH embraces a  
**One Health** philosophy  
that recognizes  
connections between  
human, animal, and  
environmental health  
when addressing  
occupational health and  
safety issues in agriculture.

## TURKEYS AND ONE HEALTH



In 2015 the poultry industry in the Upper Midwest was hit with an outbreak of **highly pathogenic avian influenza (HPAI)** that resulted in the loss of over 48 million birds. The response to this outbreak addressed **both animal and human health concerns**, while maintaining a viable industry that provides a safe and affordable protein source. This required coordination between the private sector, multiple governmental agencies at the state and national level, and academia. This **coordinated effort** was credited with preventing the HPAI from being substantially more devastating than it could have been. UMASH and other NIOSH supported agricultural safety and health centers played an important role in assisting this response in ascertaining potential human health risks and providing appropriate and timely information to **protect the health of workers**.

Looking back on 2015 gives us a chance to think about the importance of keeping the people who feed the world **safe and healthy** and the challenges and opportunities that arise in this endeavor. UMASH has continued to build capacity around the concept of **One Health** that integrates animal, human and environmental health, while keeping a focus on how changes in agriculture affect the worker. In this issue, we highlight some of our activities that build on the concept of One Health and bring new partners to **address existing and evolving challenges and opportunities** in agricultural safety and health.

Bruce H. Alexander

Director, Upper Midwest Agricultural Safety and Health Center

## HIGHLIGHTS

Turkeys & One Health	1
UMASH Highlights	2-3
Pilot Projects	4
Announcements	4
Upcoming Events	4
Avian Influenza	5-6

## NATIONAL OCCUPATIONAL RESEARCH AGENDA (NORA) SYMPOSIUM

CRITICAL CHALLENGES FACING OCCUPATIONAL  
HEALTH AND SAFETY - TODAY AND TOMORROW



**WEDNESDAY, MAY 4**  
2:00 - 5:00 PM

John Howard, MD, MPH, JD, LLM  
Director, National Institute for  
Occupational Safety and Health

**REGISTER ONLINE**  
[z.umn.edu/nora2016](http://z.umn.edu/nora2016)

Research • Education • Prevention

# UMASH HIGHLIGHTS OF 2015

## BUILDING PARTNERSHIPS TO ADDRESS AGRICULTURAL HEALTH AND SAFETY IN THE UPPER MIDWEST

### ANNUAL FORUM

UMASH collaborated with AgriSafe Network, the University of Wisconsin-Eau Claire's College of Nursing and Health Sciences, and the Southern Minnesota Center of Agriculture to host a forum about incorporating health and safety into agricultural curriculum. Forum participants recognized the need for collaborative efforts to promote agricultural safety and health education not only from farm owners and workers but also including input from agribusiness, healthcare, agricultural banking, insurance companies, government and academia. A summary commentary has been jointly written and submitted for publication. Read more at [umash.umn.edu/umash-annual-forum-2015/](http://umash.umn.edu/umash-annual-forum-2015/)



### COMMUNITY OUTREACH

UMASH is working to build stronger partnerships with Extension and other community groups by participating in events such as, the Extension Risk Management Education national conference in Bloomington, MN, the National Association of County Agricultural Agents annual conference in Sioux Falls, SD, and the Latino Summit held in Mankato MN.

## SEGURIDAD WORKER TRAINING

The *Seguridad en Las Lecherías: Immigrant Dairy Worker Health and Safety* project designed and is testing a **bilingual health and safety training curriculum** to address language and training needs for Hispanic dairy workers. As of September 2015, project staff have **provided 3,453 training hours to 850 workers on 68 farms**.



**Positive changes in farm safety and health knowledge** are being seen in the Hispanic dairy workers who have taken the training. One participant now wants to further train his workers in operating skid loaders and pay for their health screening and treatment.

⇒ **Learn more about the bilingual curriculum at:**  
[umash.umn.edu/seguridad/](http://umash.umn.edu/seguridad/)

The Seguridad team met with United Voices Collaborative to compare the challenges and accomplishments of community health workers in Milwaukee to the Seguridad promotores who are working at farms across rural Wisconsin.

## REDUCING LOST DAYS OF WORK

The *Facilitating Return to Work for Injured and Ill Animal Agriculture Workers* project is working to reduce lost days of work by returning injured workers to the job sooner in ways that are safe and contribute positively to the farm operations.

The **Safe Return-to-Work** computer application will help clinicians identify suitable farm tasks that an injured worker can safely perform during recovery, thereby reducing lost days of work for both the worker and the farm operation. Over 250 farm tasks were measured and put into a database for the Safe Return-to-Work application. Clinicians will be testing the application in the near future.





# UMASH HIGHLIGHTS OF 2015

## DAIRY STOCKMANSHIP TRAINING

The *Multidisciplinary Network to Address Agriculture Worker Health and Safety Issues* project launched a 5-part video series on Dairy Stockmanship - available in English and Spanish. Stockmanship is beneficial for cows and handler by decreasing stress, increasing milk production and reducing potential injuries on the farm. The videos demonstrate stockmanship principles when working with dairy cattle, including:

- Using Predictable Animal Behavior to Increase Milk Production
- How a Cow Uses Her Senses
- Working with the Pressure Zone
- Moving Cows More Effectively
- Making the Milking Parlor a Happy Place



**KEEP CALM  
AND  
MOVE COWS**

The videos are an educational resource intended for farmers, ranchers, farm employees, veterinarians, human resources training staff and those involved with worker health and safety training/education. All videos can be used in conjunction with the fact sheets and posters available on the UMASH website at [umash.umn.edu/stockmanship/](http://umash.umn.edu/stockmanship/)

## CUTTING EDGE RESEARCH



The *Occupational Hazards in Pork Production Associated with Production Practices* project has conducted extensive **sampling for air contaminants** at a swine facility in southern Minnesota that uses parallel systems that keep gestation crates or gestation pens and finishing barns with feed delivery systems for both wet and dry feed. Results suggest that the greatest influences on worker exposures are season and location within the facility. It was also noted that hydrogen sulfide and endotoxin levels had significant spikes during power washing in the room with gestation crates.

The project team has partnered with the National Pork Board to explore using injury data collected by companies to help characterize injury burden in the industry and improve **injury surveillance** in the future. This project team is working with several companies to review injury data currently being collected and make recommendations for future data collection.

## AG SAFETY PLEDGE TO RAISE AWARENESS

UMASH initiated it's first "Pledge" campaign this year as part of National Farm Safety and Health Week "Ag Safety is not just a slogan, it's a lifestyle" was the theme of the event and of our Pledge.

We initiated the Pledge on August 1st and ran through September 30th. The Pledge included a list of **eleven safety reminders** to make ag safety part of one's lifestyle. Engagement by the public as well as staff and students was widespread and included regional media attention.



**LEARN MORE ABOUT UMASH PROJECTS AND OUTREACH  
ACTIVITIES AT UMASH.UMN.EDU**

# UMASH PILOT PROJECT PROGRAM

Four new pilot projects were awarded for 2015.

**Robotic Milker Systems: A Cross-sectional Study  
Evaluating Farmer Perceptions of Quality of Life on  
Robotics and Non-Robotics Dairies**  
National Farm Medicine Center

**Pilot Project to Demystify the Sudden Release of  
Hydrogen Sulfide During Manure Agitation**  
University of MN Bioproducts & Biosystems Engineering

**Worker Health and Safety of an Integrated Poultry  
and Cropping System**  
UMN Regional Sustainable Development Partnerships

**Communication Strategies to Support Agricultural  
Innovations and Engagement**  
Applied Economics, University of Minnesota

Learn more at [umash.umn.edu/pilot-projects/](http://umash.umn.edu/pilot-projects/)

## ANNOUNCEMENTS



### PETER DAVIES APPOINTED TO PRESIDENTIAL ADVISORY COUNCIL

Peter Davies B.V.Sc., Ph.D., professor of Swine Health and Production, and UMASH Principal Investigator on the *MRSA Colonization and Infection in Swine Veterinarians* project, has recently been appointed one of only four veterinarians in the nation to the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria.

For the full article, go to:

<http://www.healthtalk.umn.edu/2015/09/24/two-u-of-m-college-of-veterinary-medicine-faculty-members-appointed-to-national-presidential-advisory-council/>



### RUSS DALY PUBLISHED IN ZOOSES AND PUBLIC HEALTH

Russ Daly, DVM, DACVPM, Principal Investigator of UMASH pilot project, *Characterization of Shiga-toxin Producing E. coli Infections and Cryptosporidia in South Dakota with Respect to Agricultural Exposures and Other Risk Factors*, just published an article in *Zoonoses and Public Health*.

<http://onlinelibrary.wiley.com/doi/10.1111/zph.12251/abstract>

## SUMMER PUBLIC HEALTH INSTITUTE COURSE



### Minimizing Transmission of Infectious Diseases During Outbreaks: Public Health Protection for You and Your Workforce

Jeffrey Bender & Carolyn Sheridan

May 23 (9 am -12 pm) May 24, 25, 27 (8 am-12 pm)

Recent outbreaks of Ebola and Highly Pathogenic Avian Influenza highlight the need to have a trained work force familiar with principles to protect workers and those involved in the response. By the end of the class students should feel comfortable with using various forms of PPE, know deficiencies, and be able to provide practical recommendations for daily situations as outbreaks unfold.

Learn more and register online at [www.sph.umn.edu/academics/institutes/public-health-institute](http://www.sph.umn.edu/academics/institutes/public-health-institute)

## UPCOMING EVENTS

**Ag Safety Awareness Week**  
March 6-10

**National Ag Day**  
March 15

**AgriSafe Network Webinar  
Protecting Young Adults in the  
Agricultural Workforce**  
March 22 @ 12:00 CST

**AgriSafe Network Webinar  
Preventing Needlestick Injuries in  
Agricultural Settings**  
*Presented by: Jeff Bender*  
March 30 @ 12:00 CST

**Women's Agricultural Leadership  
Conference 2016: "Activate Her"**  
April 13  
Chaska, MN

**AgriSafe Network Webinar  
Agritourism: The Next Frontier in  
Agriculture**  
*Presented by: Carrie Klumb*  
April 18 @ 12:00 CST

Learn more and view full event list at:  
[umash.umn.edu/upcoming-events](http://umash.umn.edu/upcoming-events)



# Ag Safety and Health Spotlight

## RESPONDING TO EMERGING ISSUES: HPAI OUTBREAK



PHOTO CREDIT: MINNESOTA TURKEY GROWERS ASSOCIATION

### Minnesota Department of Health Highly Pathogenic Avian Influenza Response

Joni M. Scheftel, DVM, MPH, DACVPM

State Public Health Veterinarian, Minnesota Department of Health

Kirk Smith, DVM, PhD

Foodborne, Waterborne, Vectorborne, and Zoonotic Diseases Section, Minnesota Department of Health

In spring 2015, the U.S. experienced a devastating outbreak caused by highly pathogenic avian influenza (HPAI) H5N2, mainly among commercial turkey and table-egg layer chicken flocks. In Minnesota alone over 9 million birds on 108 farms located in 23 counties died from the disease or were depopulated.

In other countries (primarily in Asia), some HPAs can infect people who have direct contact with poultry, and cause severe disease with high fatality rates. Therefore, when the H5N2 outbreak hit the U.S., possible human health effects had to be evaluated; it was not known how infectious (if at all) the H5N2 virus might be for humans. It was critical to: 1) limit exposures of poultry workers to infected birds; 2) monitor poultry workers who had been exposed to infected birds to watch for possible symptoms of HPAI virus infection; and 3) test people with compatible symptoms. These responsibilities fell to the Minnesota Department of Health (MDH) Zoonotic Diseases Unit, including staff who are also part of the Upper Midwest Agricultural Safety and Health Center (UMASH).

When MDH was informed of an infected poultry flock, staff contacted the flock owner or manager and all associated workers. Workers were interviewed regarding type of contact with sick birds and protective equipment used. Workers were then contacted daily for 10 days and monitored for development of illness.

We are happy to say that, despite intensive monitoring efforts, no human infections with H5N2 have been detected in Minnesota or elsewhere in the U.S. In Minnesota, from March through June, 376 people involved in the care of infected flocks were monitored. MDH tested 15 people who reported illness symptoms, but did not identify any infections with H5N2 virus.

## HPAI Outbreak continued

National criteria were developed for recommending treatment of exposed poultry workers with antiviral medications. In Minnesota, 198 (53%) of the 376 monitored workers met these criteria and were advised to take Tamiflu as a precaution; of these, 119 (60%) agreed. MDH facilitated getting the prescription for the workers by working with company occupational health departments or health care providers.

The public health response was a comparatively small yet critical part of the overall H5N2 outbreak response. Thankfully, current results suggest that this H5N2 strain is not infectious for humans. However, because influenza viruses constantly change over time, further monitoring will be critical should H5N2 or other HPAs return. UMASH and other Zoonotic Diseases Unit staff at MDH will continue to monitor this potential agricultural safety issue.



## HEALTH RESOURCES FOR PRODUCERS, WORKERS, AND FAMILIES IMPACTED BY THE AVIAN FLU OUTBREAK

These resources and more are available online at:  
[umash.umn.edu/avian-influenza](http://umash.umn.edu/avian-influenza)



### Avian Influenza Personal Protective Equipment (PPE) Guidelines

This resource was created in collaboration with AgriSafe, UMASH, and other US Ag Centers



### Health Information for People in Contact with Avian Influenza H5N2 Infected Flocks

Created by the Minnesota Department of Health  
Available in English, Karen,  
and Spanish

#### CDC Health Advisory

CDC Health Alert Network (HAN), June 2, 2015

#### NIOSH Avian Influenza Alert and Resources

National Institute for Occupational Safety and Health

#### Avian Influenza in Humans and Animals

Center for Disease Control

#### Directive, Disposal and Response Plans

USDA APHIS



The Upper Midwest Agricultural Safety and Health Center (UMASH) is funded by a cooperative agreement from the National Institute of Occupational Safety and Health, U54 OH010170.

UMASH is a collaboration of the University of Minnesota School of Public Health, University of Minnesota College of Veterinary Medicine, the National Farm Medicine Center of the Marshfield Clinic with the Migrant Clinicians Network, and the Minnesota Department of Health.