

WISCONSIN
CHEESE MAKERS
ASSOCIATION

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***H5N1 Food Safety Research
& Regulatory Updates***

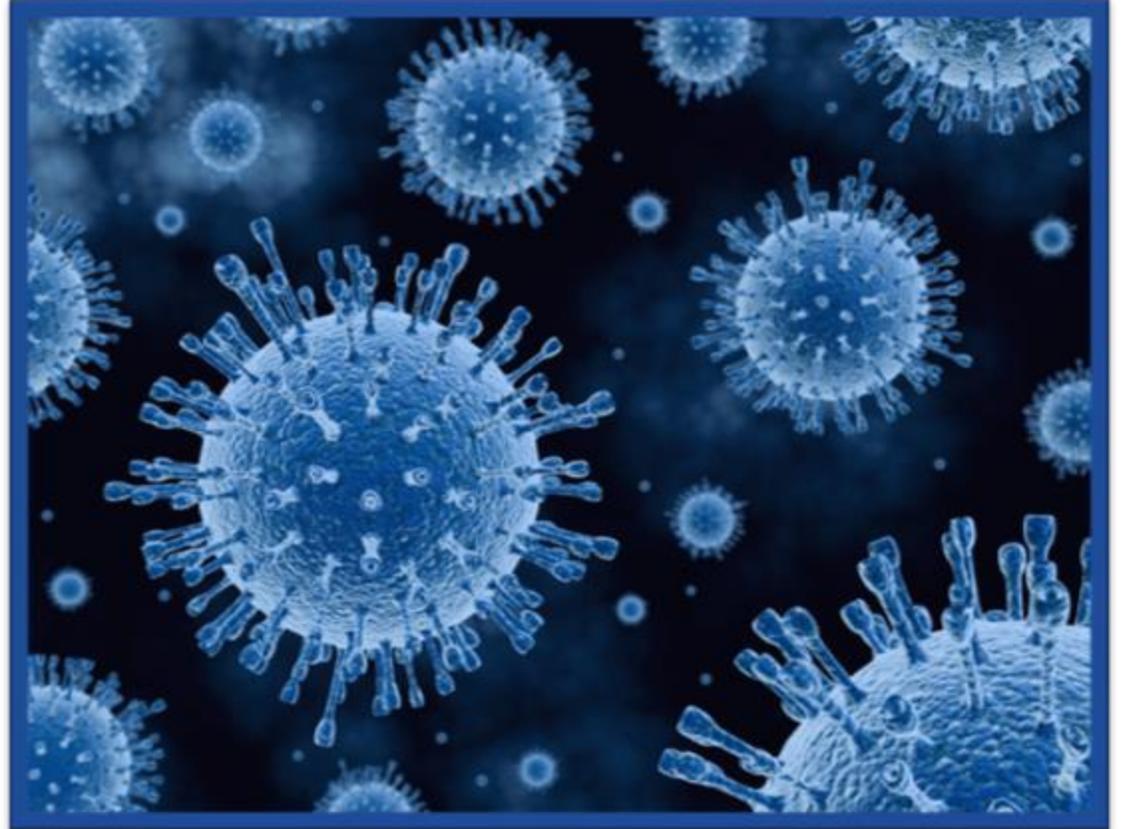
August 6, 2024

Agenda

- H5N1 Situation Report
 - Speaker: Rebekah Sweeney, WCMA
- H5N1 Regulatory Updates and Food Safety Research
 - Speaker: Dr. Steven Grube, FDA
- Questions & Answers

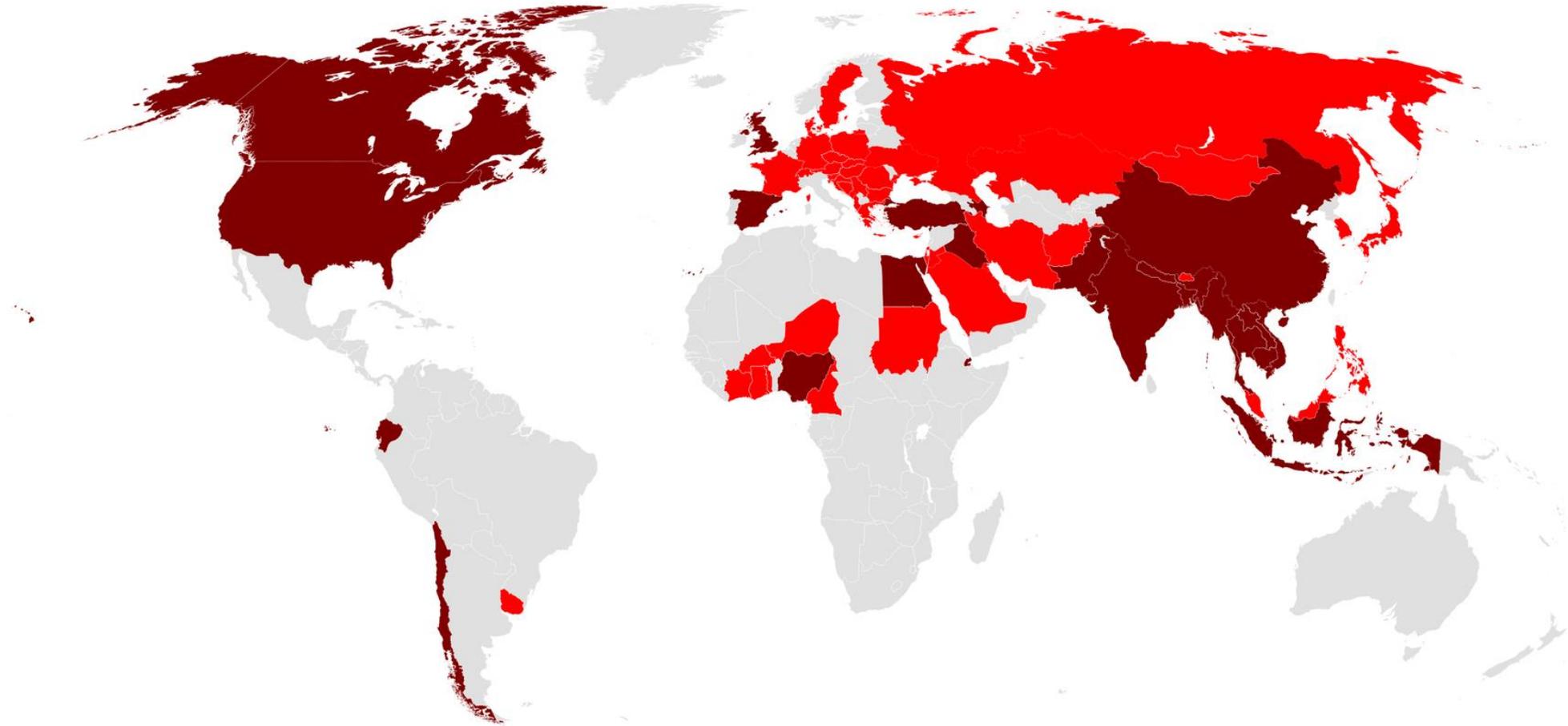
H5N1 Educational Offerings

- Webinar: H5N1 & Employee Safety (*recording now available at WisCheeseMakers.org*)
- Webinar: H5N1 & Food Safety Research
- Workshop: H5N1 Enhanced Biosecurity Practices



H5N1 Situation Report

Global Spread of H5N1



Current U.S. H5N1 Outbreak Timeline

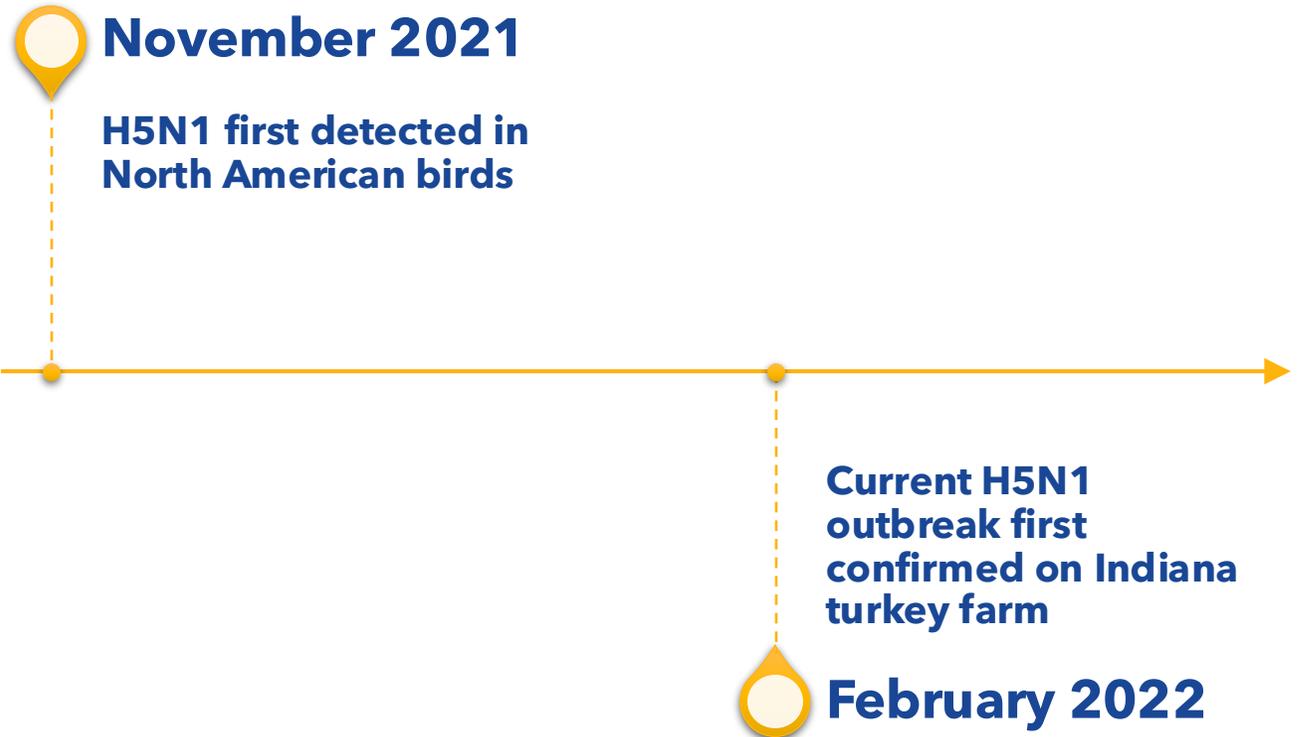


November 2021

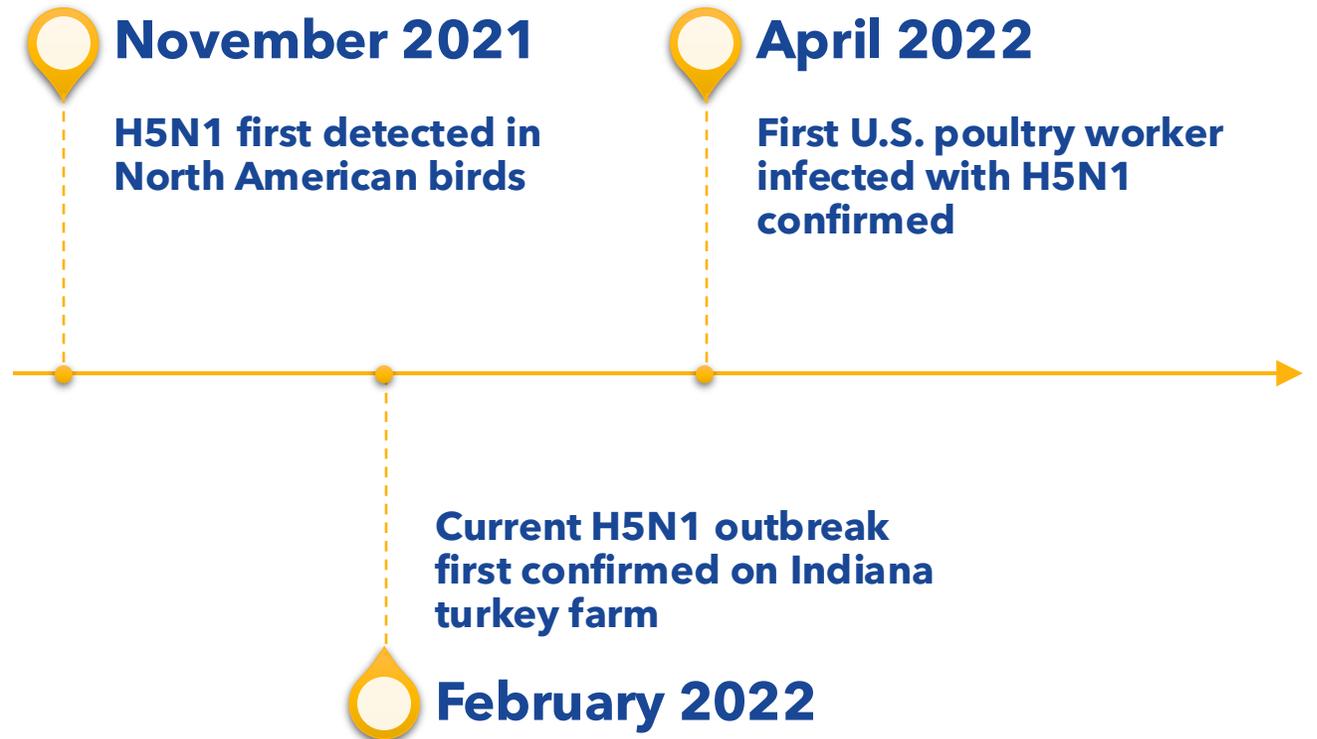
H5N1 first detected in North American birds



Current U.S. H5N1 Outbreak Timeline



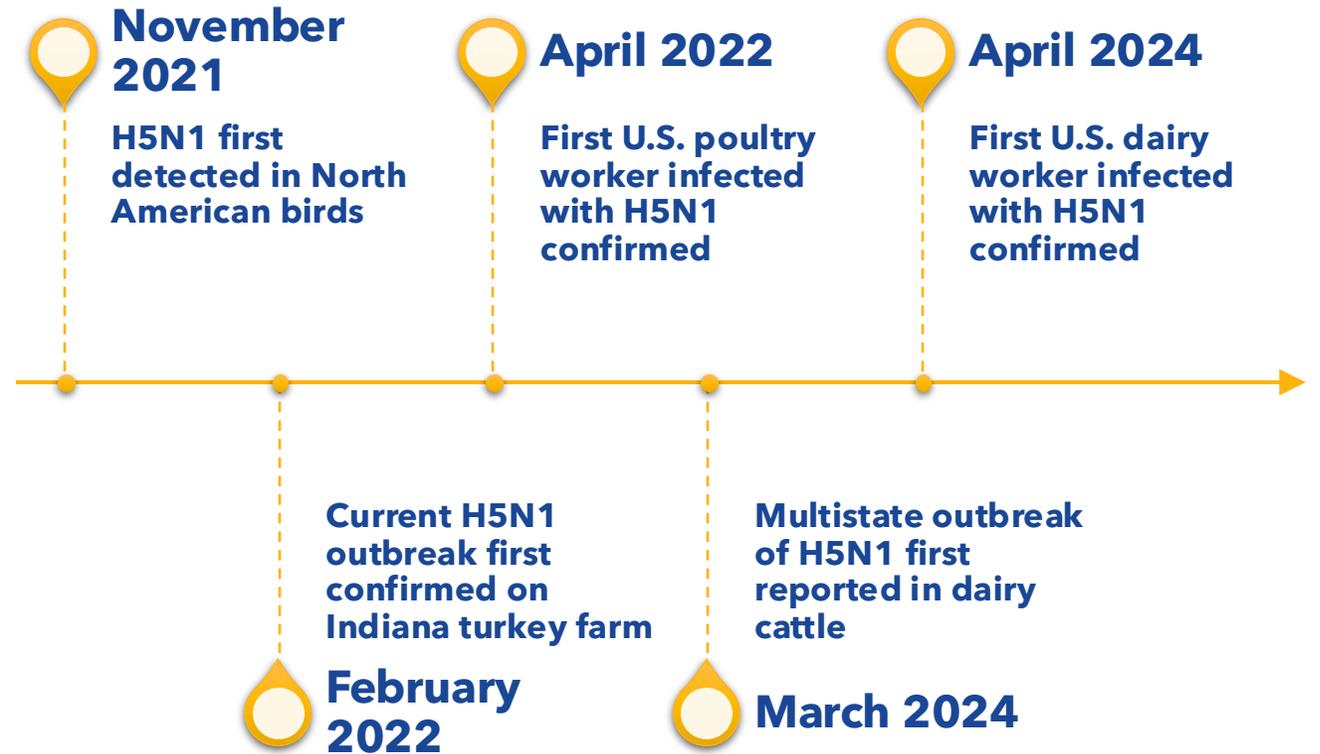
Current U.S. H5N1 Outbreak Timeline



Current U.S. H5N1 Outbreak Timeline

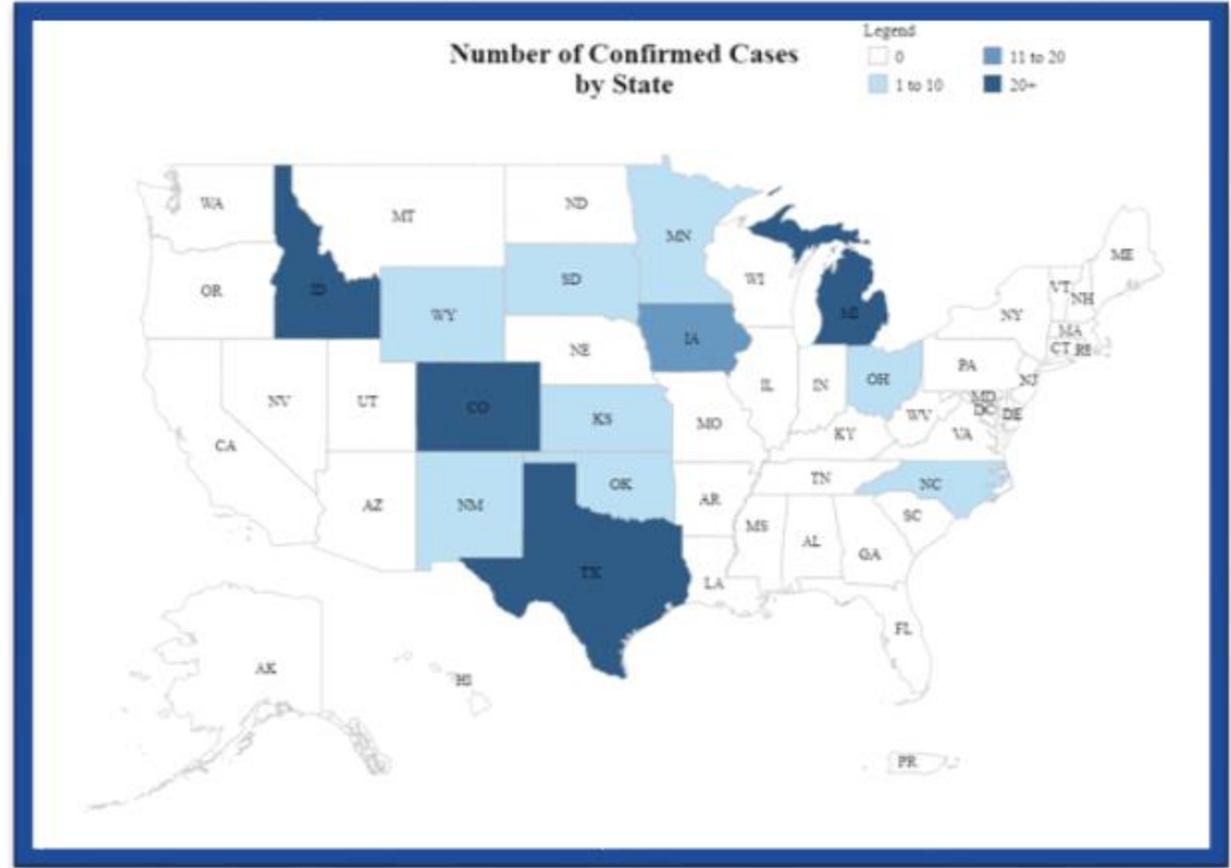


Current U.S. H5N1 Outbreak Timeline



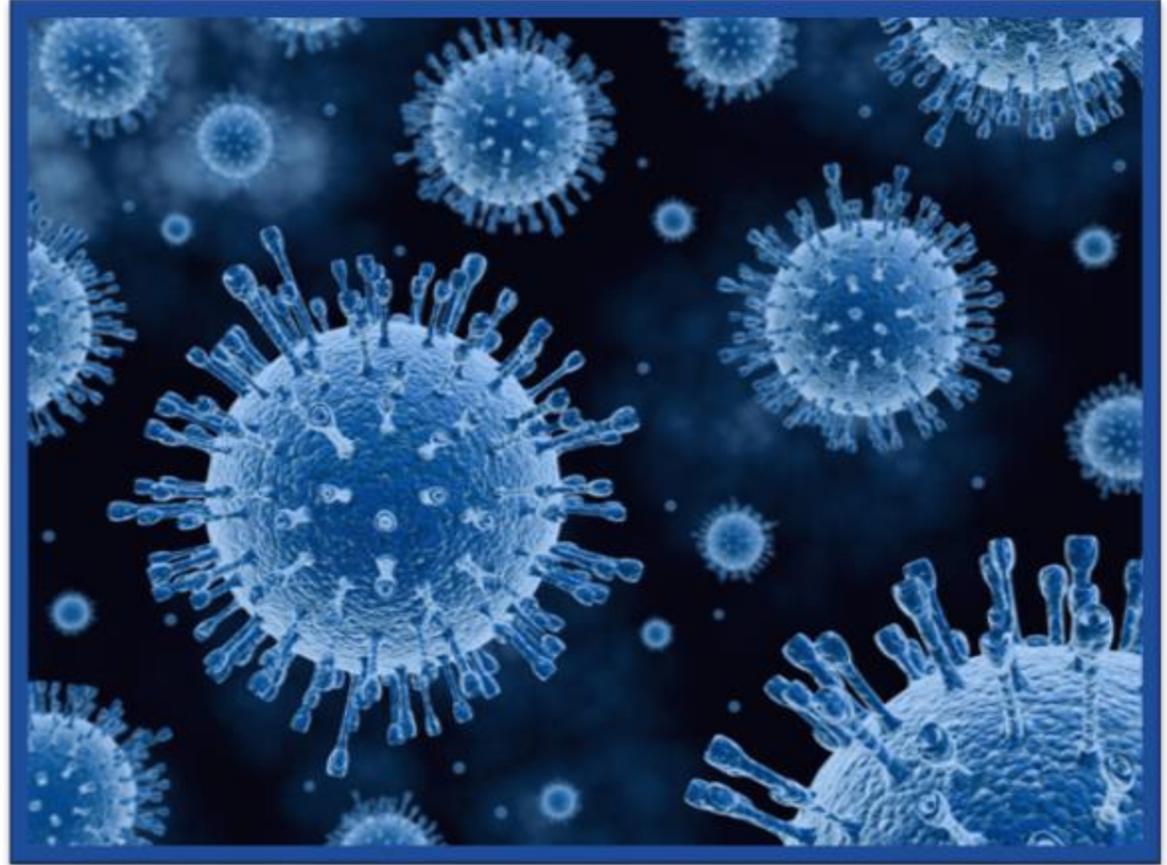
U.S. Dairy Herd Infections

- 178 herds in 13 states since March 2024
- 37 herds affected in past 30 days; most significant spread in Colorado
- Colorado now requiring dairies to test milk



U.S. Human Infections

- 13 cases recorded since April 2024
 - 9 involved close contact with sick/dead poultry
 - 4 involved close contact with dairy herds
 - No human-to-human transmission recorded
 - No fatalities



In The News... Now

CDC reveals new data on bird flu in Michigan farmworkers as US case count ticks up

Gannett

KRISTEN JORDAN SHAMUS, DETROIT FREE PRESS

July 23, 2024 at 11:03 AM

Seriously, don't drink the raw milk: Social media doubles down despite bird flu outbreak

Mary Walrath-Holdridge, USA TODAY

May 14, 2024 · 5 min read



Bird flu is bad for poultry and dairy cows. It's not a dire threat for most of us — yet.

LIVESCIENCE

'Playing Russian roulette with your health': Officials warn that social media trend of consuming raw milk will not protect you from bird flu

Human H5N1 cases in the U.S. are rising. That's bad timing with flu season, bird migrations just months away

Colorado, epicenter of bird flu in the US, becomes first state to mandate testing for H5N1 at dairy farms

First-of-its-kind step in the nation comes as Colorado deals with spillover events of H5N1 virus into poultry farms

Preventing the Spread

- USDA-APHIS promoting enhanced on-farm biosecurity; offering financial resources
- CDC recommending PPE, sanitation practices; funding worker education and traditional flu vaccination efforts
- Feds awarded \$176M to Moderna for H5N1 flu vaccine development
- FDA leading food safety research efforts, warning against raw milk consumption

H5N1 Regulatory Updates & Food Safety Research

HPAI H5N1 in Dairy Cattle: A Novel Challenge to the Milk Safety System

Steve Grube, MD, MPH
CAPT, U.S. Public Health Service
Chief Medical Officer, Center for Food Safety and Applied Nutrition

Wisconsin Cheese Makers Association

Take Home Messages



Evidence to date shows the commercial pasteurized dairy supply is safe



FDA is working with partners to understand and fill data and research gaps on this emerging pathogen



FDA recognizes importance of reducing circulation of H5N1 and exposure to new hosts



FDA has been taking a multidisciplinary and multisectoral approach to food safety and medical counter measures

One Health Approaches to Address H5N1



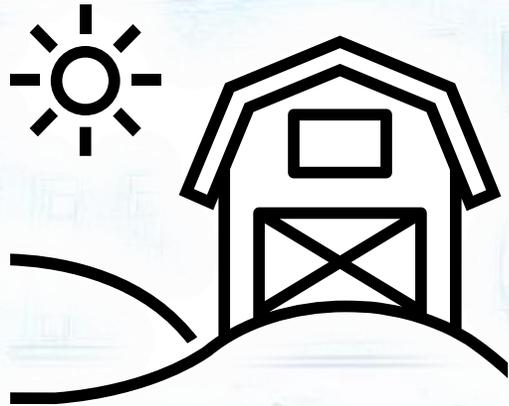
Multidisciplinary and cross-sectoral
problem solving

Government Response

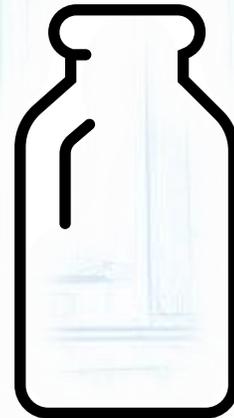


FDA HPAI H5N1 Research Agenda

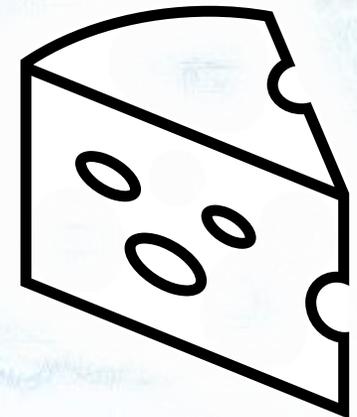
Objective 3: One Health interventions



Objective 1: Understand characteristics of inactivation methods for H5N1 in dairy products



Objective 2: Sampling Post-Pasteurization/Retail Products



Strategies to decrease the impact of H5N1
Interventions to prevent or control spread of H5N1
Alternative viral inactivation and disposal methods for discard milk

Pre-Pasteurization Milk Samples
Bench-top Thermal Inactivation Kinetics Studies
Continuous Flow Pasteurization Studies
Raw Milk Cheese Aging

Retail Dairy Product Sample Testing

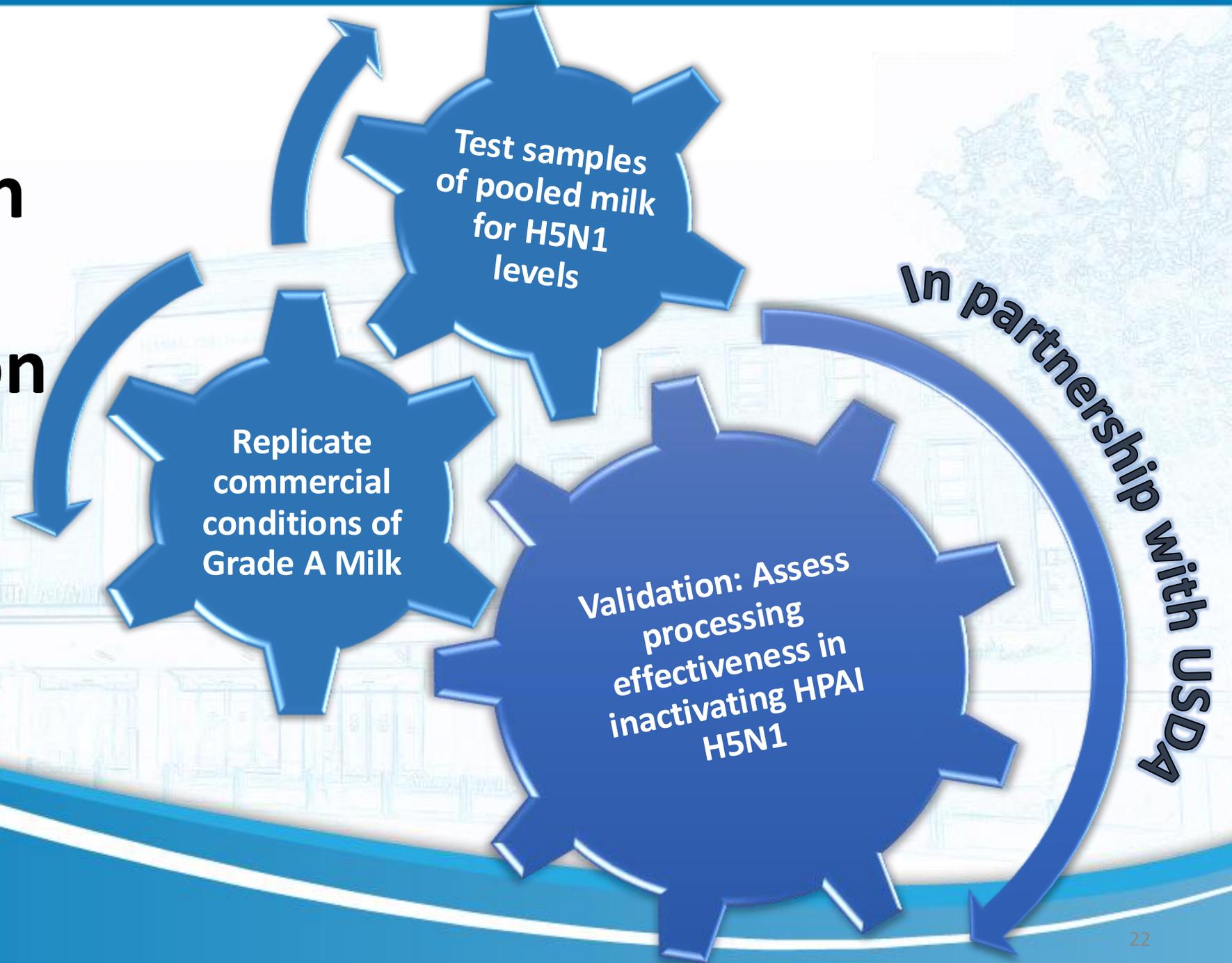
FDA is completing its research and testing in partnership with both the U.S. Department of Agriculture, US National Poultry Research Center and Animal and Plant Health Inspection Service's National Veterinary Services Laboratory. Certain research studies will be completed in partnership with universities.

Objective 1: Understand characteristics of inactivation methods for H5N1 in dairy products

Investigating temperature thresholds and duration required to effectively neutralize H5N1 HPAI virus is necessary to better understand inactivation methods. FDA is working on multiple efforts to understand the effectiveness of pasteurization and other inactivation methods.

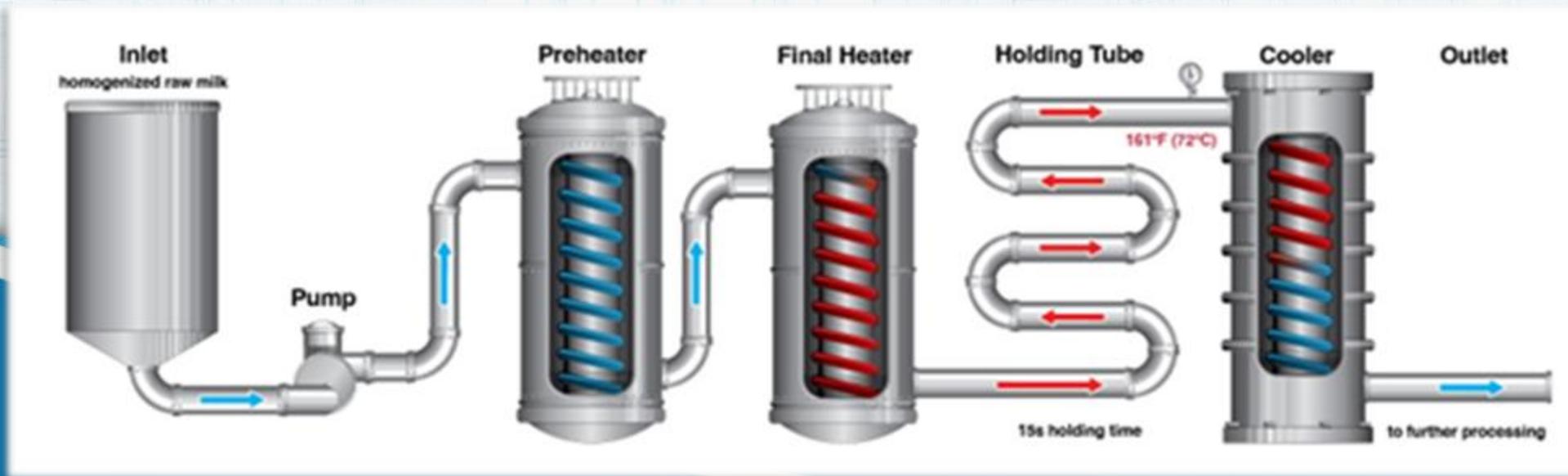
Focus area 1: Pre-Pasteurization Milk Samples. Testing pooled raw milk samples can be used as a basis to characterize potential virus levels that pasteurization may encounter. FDA is continuing to work with states on additional efforts to sample and build data on pre-

FDA Research to Validate Pasteurization



HTST Pasteurization and Bulk Tank Study

- Results released 6/28
- Analysis of raw bulk tank milk samples showed mean of 3.5 log
- HTST very effective against 6.7 log of H5N1 in pilot scale pasteurizer



Further Work on Inactivation Methods

- **Bench-top Thermal Inactivation Kinetics Studies.** Bench-top equipment studies will provide information on an estimation of the time and temperature needed for inactivation of H5N1 HPAI virus in milk and milk products.
- **Raw Milk Cheese Aging.** The purpose of these studies is to assess the survival of H5N1 HPAI virus in raw milk cheeses under various parameters over the aging process.



Objective 2: Determine the safety of retail dairy products

Ensuring the safety of retail milk is a primary objective given the high viral loads found in some affected unpasteurized milk. Evaluation of retail milk is critical for safeguarding public health and supporting confidence in the dairy supply chain.

Focus area: Retail Milk Sample Testing. Initial sampling of retail milk provided preliminary information on how much, if any viable H5N1 HPAL virus survives commercial processing. A

FDA Retail Product Testing for HPAI H5N1

Assessing a variety of products

297 retail product samples, 4/18/24 – 4/22/24

Retail samples collected from 17 states

Products produced at 132 processing locations in 38 states

237 (79.8%) negative for viral RNA

60 (20.2%) positive for viral RNA, **none (0/60) positive for viable virus**

Testing Process

Screening with
quantification

Quantitative
Real Time PCR

Egg inoculation
testing

Further Work on Retail Product Testing

- **Retail Sample Testing.** A second round of nationally representative sampling will further this effort.



conduct additional post-pasteurization testing to continue to monitor these products in the future.

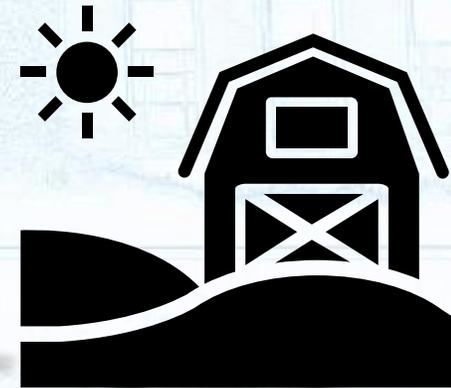
Objective 3: One Health interventions for H5N1 HPAI

H5N1 HPAI virus poses a threat to animal and human health as well as to agricultural economies. Addressing the challenges posed by H5N1 HPAI virus requires a multisectoral approach. The FDA is using a One Health strategy to mitigate the impact of H5N1 HPAI virus.

Focus area: One Health Interventions. Develop One Health interventions to prevent, control, or eliminate H5N1 HPAI in animals, milk, and the environment, for example, strategies to

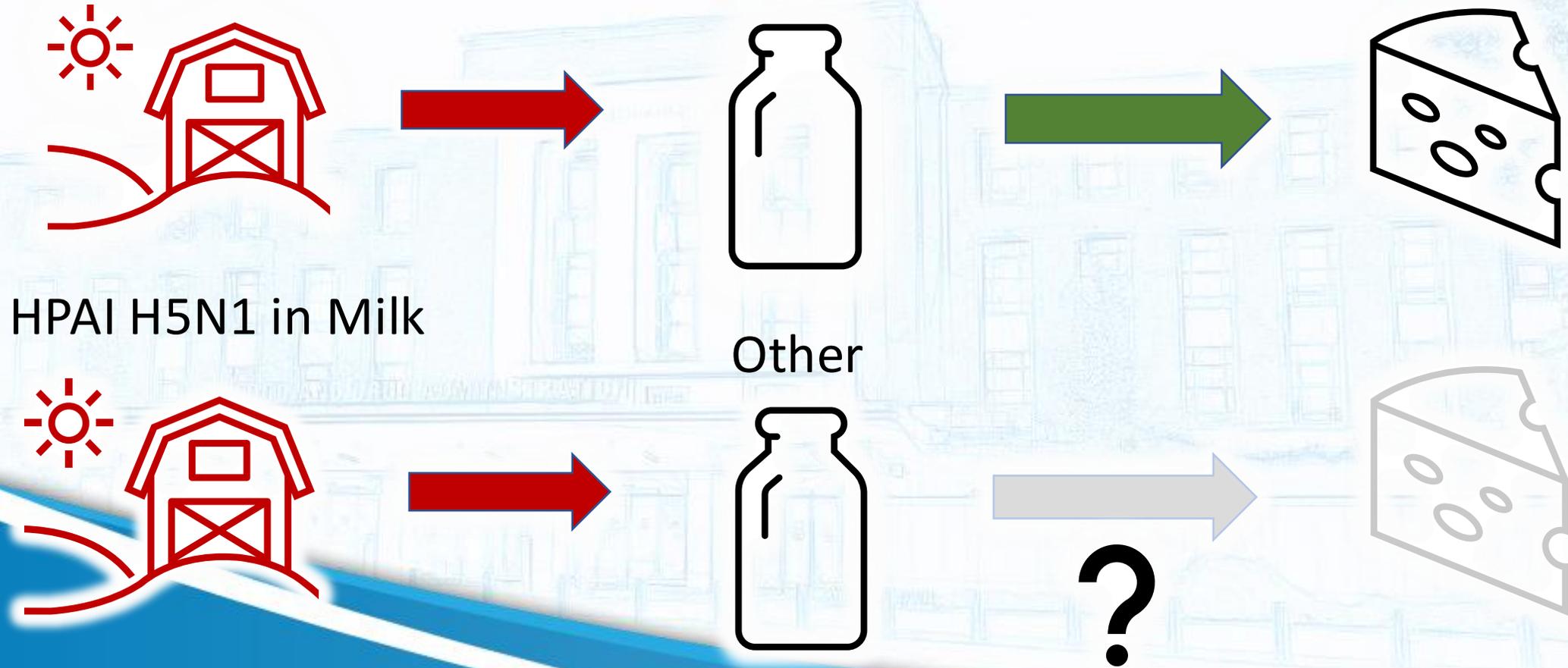
Work on One Health Interventions

- Animal and Veterinary Innovation Centers – Cooperative agreements for HPAI
- Anticipated funding for alternative disposal methods of contaminated milk



Summary of Current Knowledge

Pasteurization



FDA Recommendations for Raw Milk States

Message public about health risks of raw milk and products

Monitor dairy cattle herds for indications of HPAI H5N1 viral infection

Implement a surveillance program for herds producing raw milk for intrastate sale

Use regulatory authorities or other measures to stop the sale of raw milk if appropriate

Updates on Highly Pathogenic Avian Influenza (HPAI)

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Alerts, Advisories & Safety Information

Content current as of: 07/19/2024

Regulated Product(s)
Food & Beverages



Highly Pathogenic Avian Influenza (HPAI) is a disease that is highly contagious and often deadly in poultry, caused by highly pathogenic avian influenza A (H5) and A (H7) viruses; it is also known as bird or avian flu. HPAI viruses can be transmitted by wild birds to domestic poultry and other bird and animal species. Although bird flu viruses do not normally infect humans, sporadic human infections have occurred. It is important to note that “highly pathogenic” refers to severe impact in birds, not necessarily in humans.

[Updates on Highly Pathogenic Avian Influenza \(HPAI\) | FDA](#)

Subscribe to Email Updates

H5N1 Resources for Dairy Processors

Online Resources

- WisCheeseMakers.org
- Centers for Disease Control and Prevention
- Food and Drug Administration
- U.s. Department of Agriculture
- Wisconsin Department of Agriculture, Trade and Consumer Protection
 - Request Form for Free PPE
 - Dairy Processing Fact Sheet (English & Spanish)

Questions and Answers

Q&A

Do you believe that FDA will engage in additional future testing of dairy products off the grocery shelves? Do you see FDA engaging in the testing of products for food service, as well?

Q&A

Do we know if viral load is higher is a person consumes affected raw milk or if it is respired, enters the body through the eye, or in some other way?

Q&A

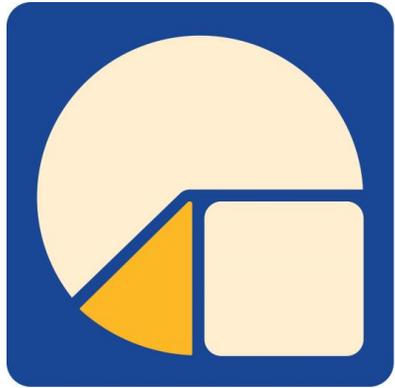
What do we know about the safety of properly aged raw milk cheeses? When might we know more?

Q&A

The FDA has stated clearly that pasteurized dairy products are safe. Has the FDA weighed in on thermization - essentially lower heat treatment - as a way to inactivate H5N1?

Q&A

Has FDA considered any communications campaigns around the message that pasteurized milk and dairy products are safe? We saw ads during the pandemic encouraging vaccination; perhaps this same strategy could be helpful.



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WisCheeseMakers.org/H5N1

Next Week:

WCMA Workshop:
**Enhancing On-Farm
Biosecurity Amid H5N1**

Tuesday, August 13
10:30 a.m.-3:00 p.m.

FREE online
\$25 in-person (Madison, WI)