

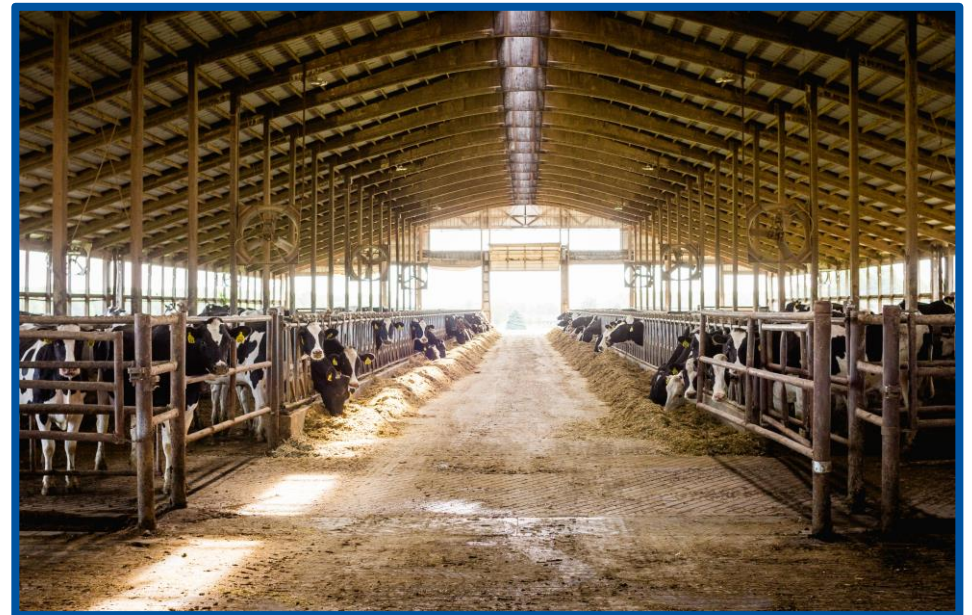


# Highly Pathogenic Avian Influenza A(H5N1) Update

Dr. Tim Boring, Director, MDARD

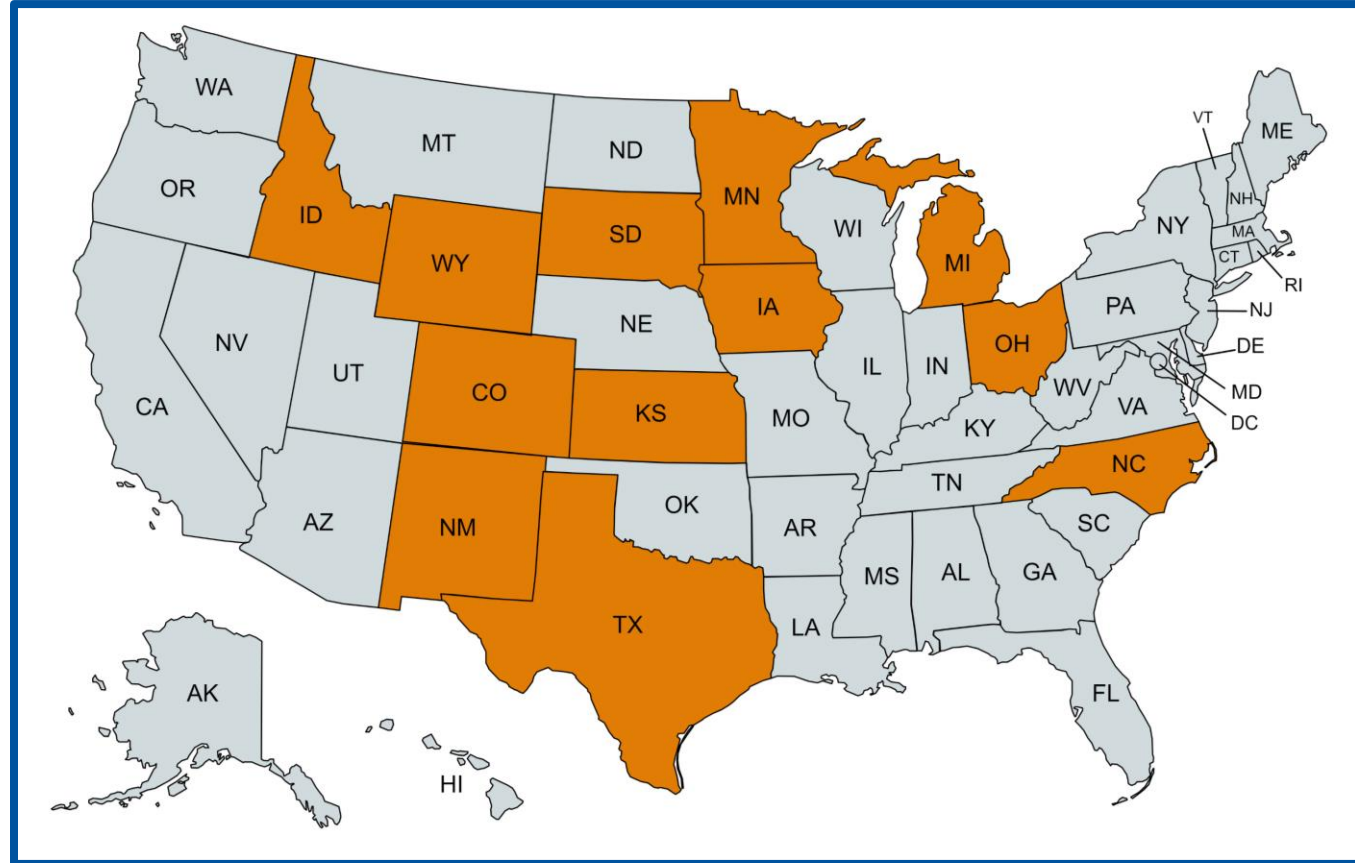
Dr. Nora Wineland, State Veterinarian, MDARD

June 12<sup>th</sup>, 2024

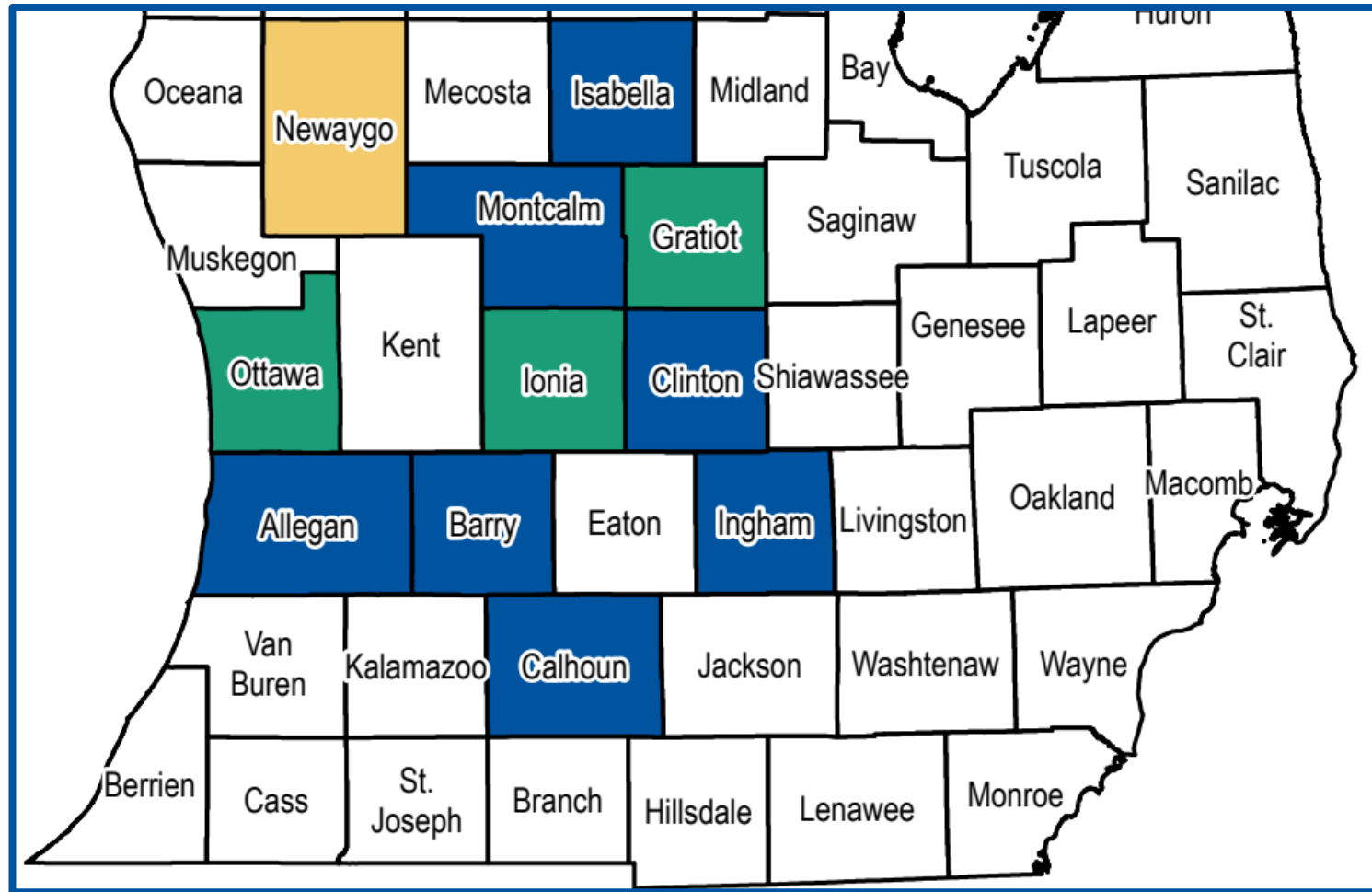
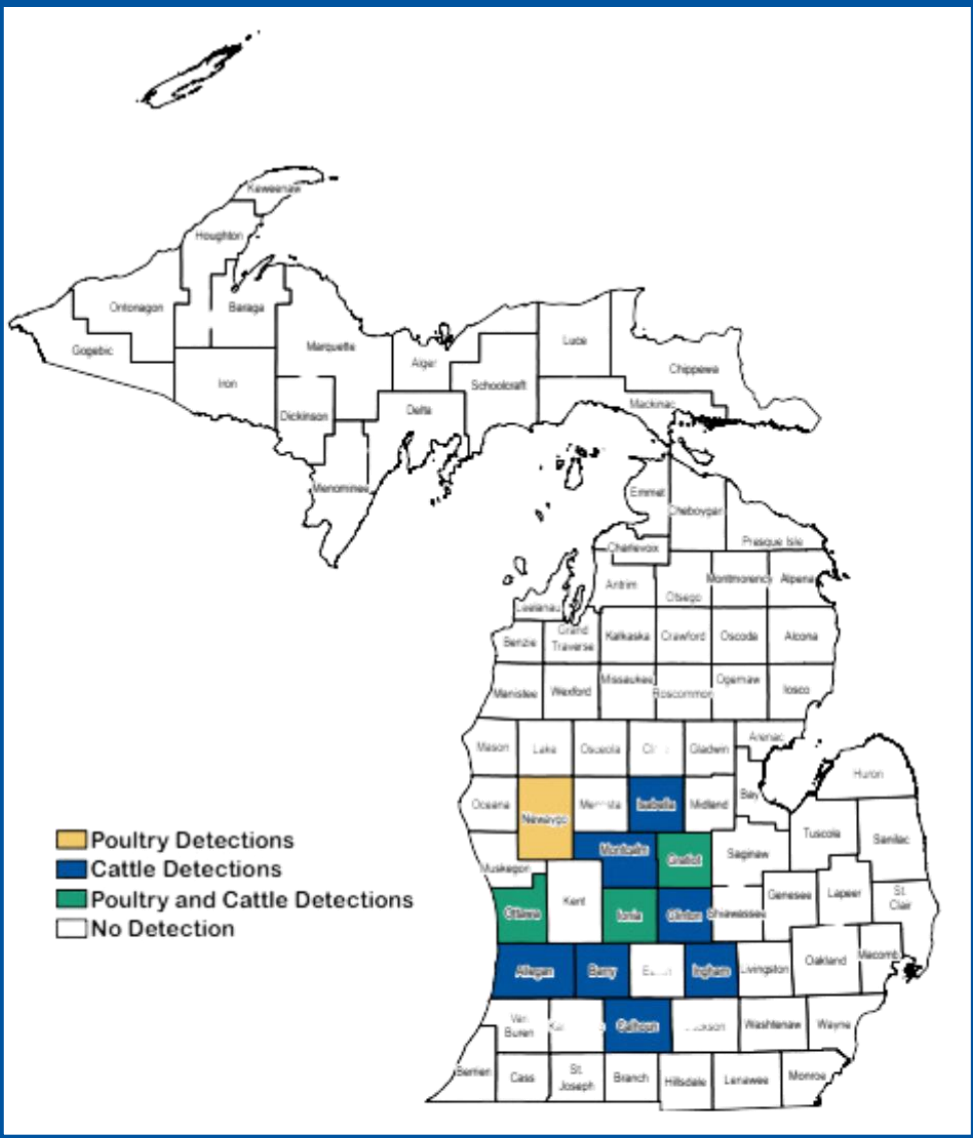


# 2024 HPAI Outbreak Overview

- In March 2024, [HPAI H5N1 detections](#) were reported for the first time in dairy cows in Texas and Kansas.
- April 1, 2024—A person in the United States tested positive for [highly pathogenic avian influenza](#) (HPAI) A(H5N1) virus (“H5N1 bird flu”). This would be the first reported cow-to-human spread of H5N1 bird flu.
- 11 additional states have tested positive in the subsequent weeks.
- 87 herds in 12 states total, 25 in Michigan.
- 7 commercial poultry sites in Michigan. 1 backyard flock.
- Concerns for further mutations in dairy, in other animals, towards heightened risk to humans.
- State of Michigan coordination efforts include: MDARD, MDHHS, EGLE, LARA, LEO, MDNR, UIA, Local Public Health, County Emergency Management.
- Michigan dairy & poultry industries leading nationally with cooperation; other states coming along.

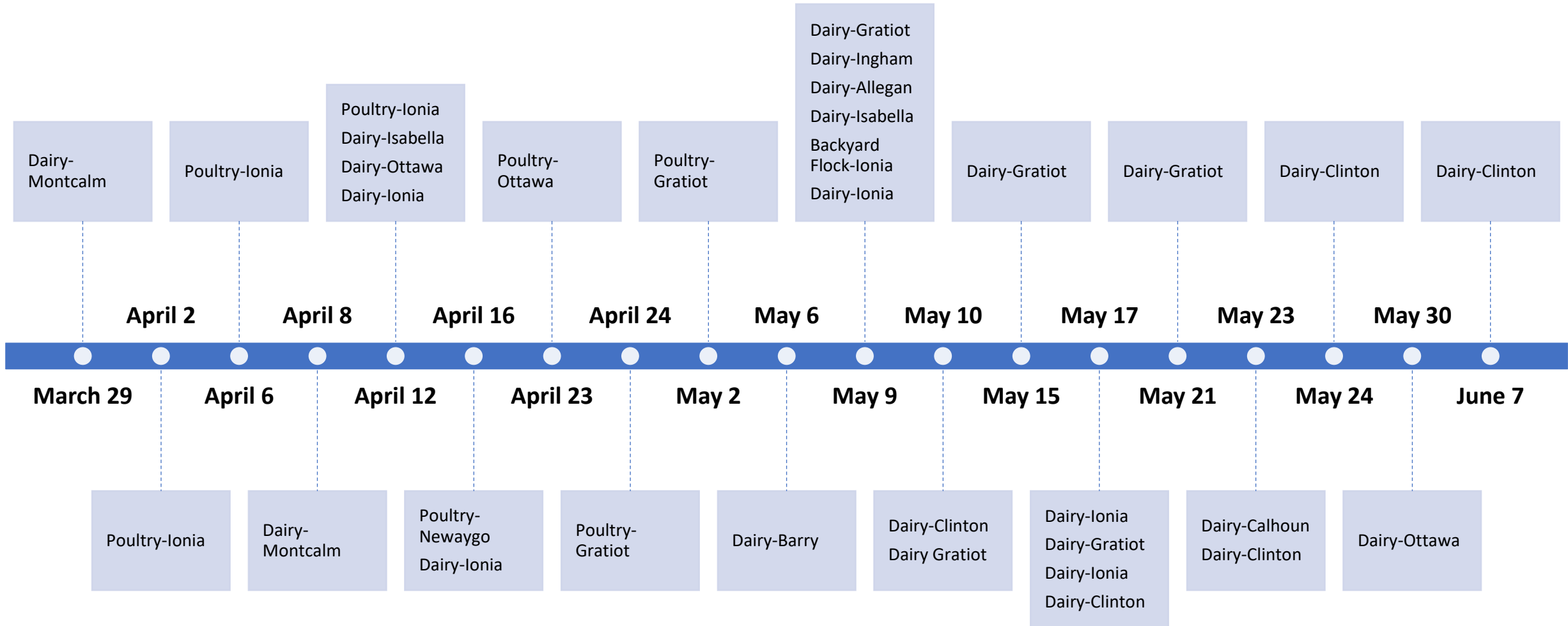


# 2024 Michigan HPAI Status



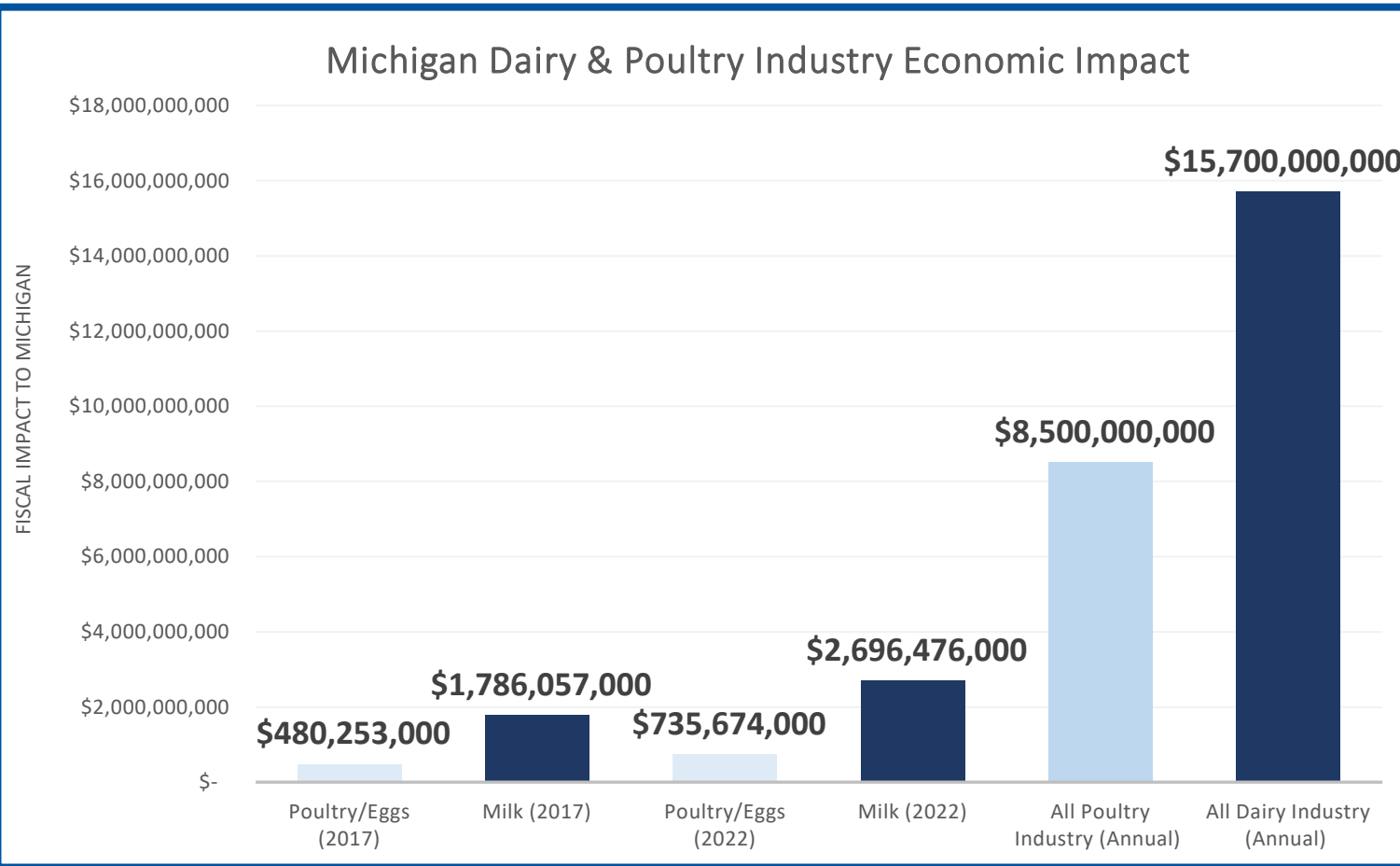
Source:  
[www.Michigan.gov/birdflu](http://www.Michigan.gov/birdflu)

# Detection Timeline



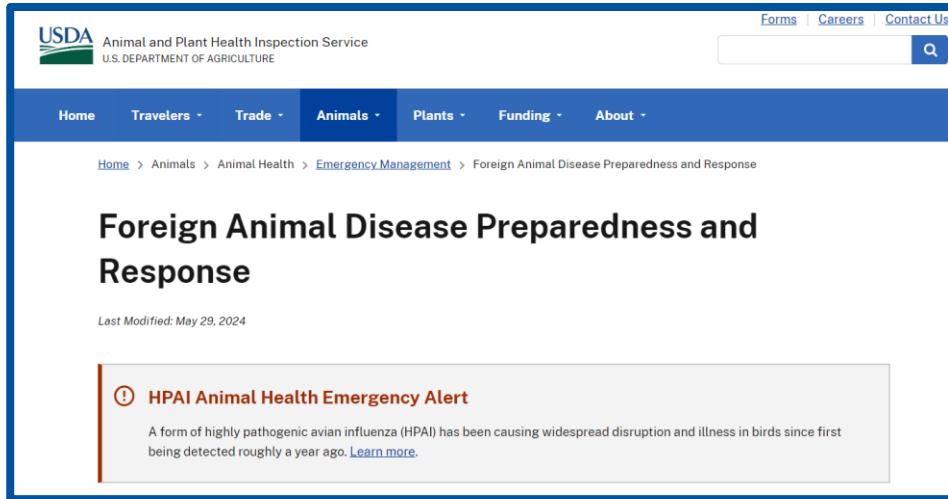
# Michigan Dairy & Poultry Sectors Overview

Michigan Dairy & Poultry Industry Economic Impact



- Dairy is the largest sector of Michigan's agriculture industry with a \$15.7 billion economic impact to the state's economy.
- As of the June 7<sup>th</sup> USDA Dairy Market news, Milk production has decreased, with prices staying relatively stable.
- Poultry is one of the largest sectors of Michigan's agriculture industry with a \$8.5 billion economic impact to the state's economy.
- As of the June 7<sup>th</sup> USDA Egg Markets Overview, egg prices have remained steady with a slight elevation from the prior week and no changes to demand.

# USDA Foreign Animal Disease Preparedness and Response (FAD PReP)



USDA Animal and Plant Health Inspection Service  
U.S. DEPARTMENT OF AGRICULTURE

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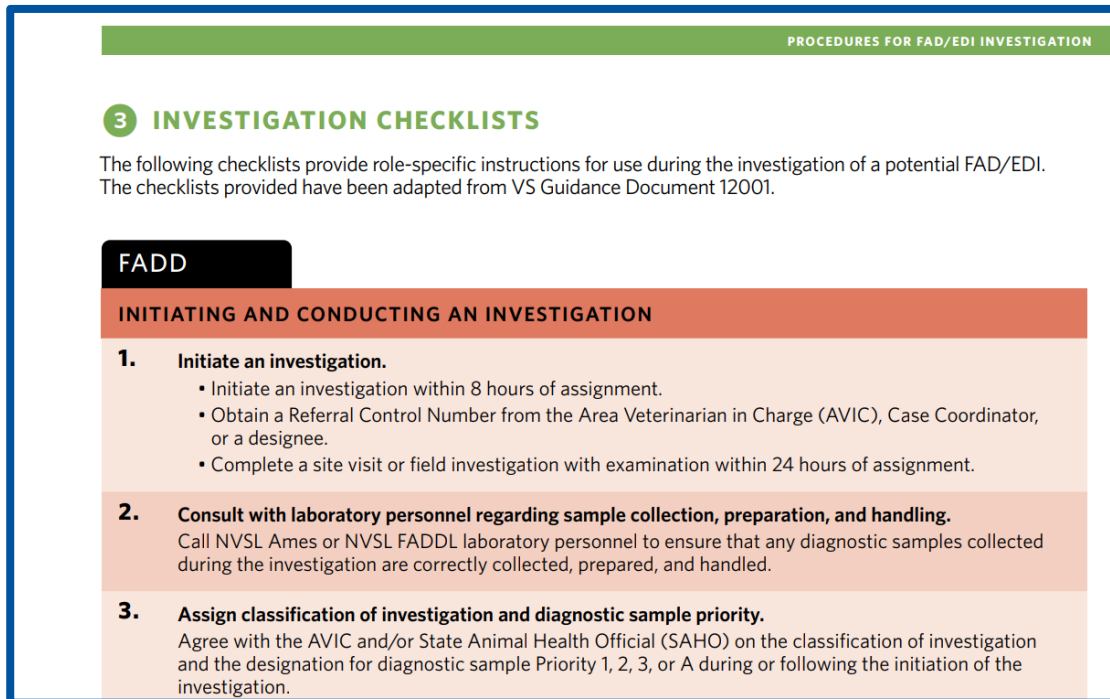
Home > Animals > Animal Health > Emergency Management > Foreign Animal Disease Preparedness and Response

## Foreign Animal Disease Preparedness and Response

Last Modified: May 29, 2024

**HPAI Animal Health Emergency Alert**

A form of highly pathogenic avian influenza (HPAI) has been causing widespread disruption and illness in birds since first being detected roughly a year ago. [Learn more.](#)



PROCEDURES FOR FAD/EDI INVESTIGATION

### 3 INVESTIGATION CHECKLISTS

The following checklists provide role-specific instructions for use during the investigation of a potential FAD/EDI. The checklists provided have been adapted from VS Guidance Document 12001.

#### FADD

##### INITIATING AND CONDUCTING AN INVESTIGATION

- 1. Initiate an investigation.**
  - Initiate an investigation within 8 hours of assignment.
  - Obtain a Referral Control Number from the Area Veterinarian in Charge (AVIC), Case Coordinator, or a designee.
  - Complete a site visit or field investigation with examination within 24 hours of assignment.
- 2. Consult with laboratory personnel regarding sample collection, preparation, and handling.**

Call NVSL Ames or NVSL FADDL laboratory personnel to ensure that any diagnostic samples collected during the investigation are correctly collected, prepared, and handled.
- 3. Assign classification of investigation and diagnostic sample priority.**

Agree with the AVIC and/or State Animal Health Official (SAHO) on the classification of investigation and the designation for diagnostic sample Priority 1, 2, 3, or A during or following the initiation of the investigation.

- Preparedness and response planning for foreign animal disease (FAD) incidents is crucial to protect public health, animal health, animal agriculture, the environment, the food supply, and the economy.
- Foreign Animal Disease Preparedness and Response (FAD PReP) is the United States' comprehensive preparedness and response strategy for FAD threats.

# Response Goals

The objective is to allow the United States to regain disease-free status without the response effort causing more disruption and damage than the disease outbreak itself.

## HIGHLY PATHOGENIC AVIAN INFLUENZA RESPONSE PLAN *THE RED BOOK*

### FAD PReP

Foreign Animal Disease  
Preparedness & Response Plan



United States  
Department of  
Agriculture

United States Department of Agriculture • Animal and Plant Health Inspection Service • Veterinary Services

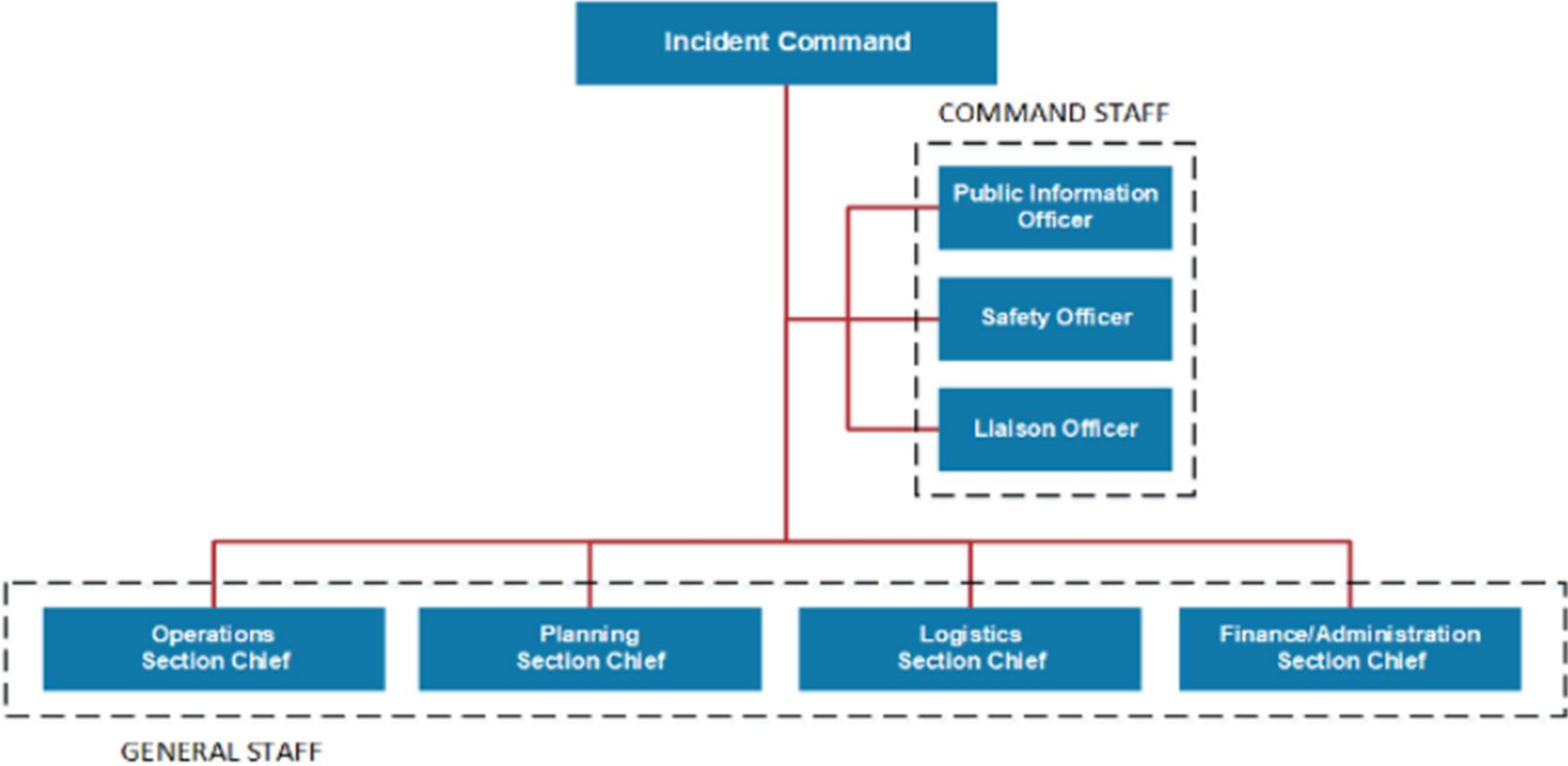
- Detect, control, and contain HPAI in domestic poultry as quickly as possible.
- Eradicate HPAI using strategies that seek to protect public health and the environment, and stabilize animal agriculture, the food supply, and the economy.
- Provide science- and risk-based approaches and systems to facilitate continuity of business for noninfected animals and non-contaminated animal products.
- Achieving these three goals will allow individual poultry facilities, States, Tribes, regions, and industries to resume normal production as rapidly as possible.

# National Incident Command System Framework to Address Response in Poultry



## National Incident Management System

Third Edition  
October 2017







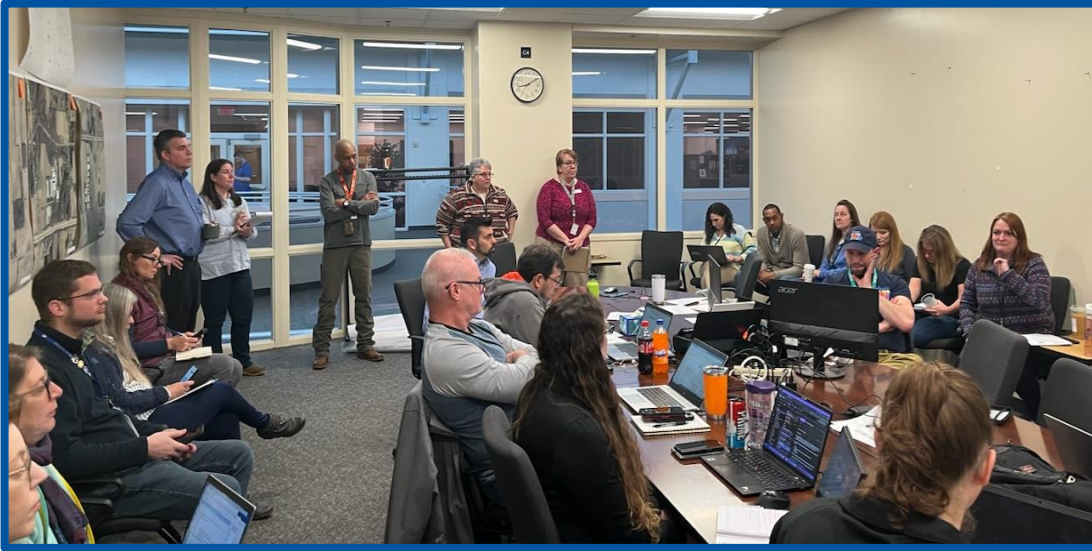
# USDA HPAI Red Book Response Critical Activities

- Public Communication and Messaging Campaign
- Quarantine and Movement Control Of Poultry
- Biosecurity
- Diagnosis and Reporting
- Epidemiological Investigation and Tracing
- Surveillance Of Poultry
- Continuity of Business
- Mass Depopulation and Euthanasia Of Poultry
- Disposal Of Poultry
- Cleaning and Disinfection Of Premises
- Emergency Vaccination (if determined by USDA)

# Incident Response in Michigan

MDARD established Incident Management Team modeled through a FEMA National Incident Management Structure, consisting of:

- Incident command officers, liaison officers, safety officers, public information officers, a logistics section, an operations section, a permitting section, a finance section, and a planning section teams. USDA Poultry epidemiologist on site.
- 200+ MDARD staff responding. All MDARD staff receive baseline FEMA Emergency Management Institute training.
- Integrated with United States Department of Agriculture (USDA) specialist teams (110+ staff) (Blue, Red, Gold) leading the response.
- 12 hours/day 7 days/week





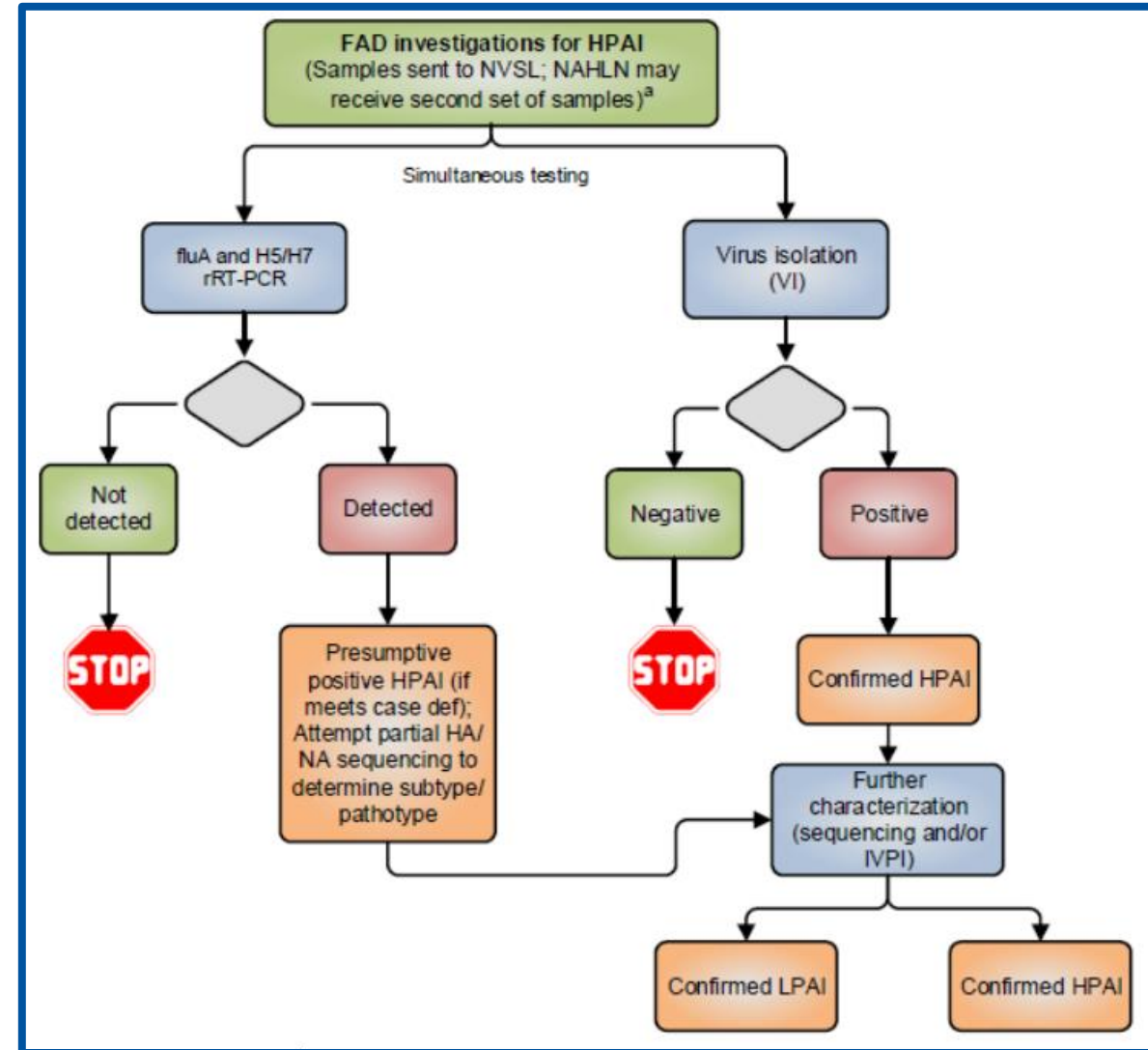
# Complexities with a Multi-Species Event



- Commercial Poultry flocks indemnified by USDA.
- Established procedures and processes in place to address an HPAI event in poultry through the USDA Red Book.
- No such framework exists in dairy. Closest equivalent is the Secure Milk Supply (adopted in 2017) developed for Foot and Mouth Disease.
- Science being established in dairy related to viral incubation and post-symptomatic shedding, etc.
- Transmission pathways are being evaluated.

# Epidemiology

- HPAI is addressed under the FAD PReP framework.
- Steps of an investigation are done simultaneously and not as independent steps.
- Epidemiologists work across program units and agencies on different aspects of the investigation.
- Epidemiological investigation and movement tracing during an outbreak are critical in controlling and eradicating HPAI in poultry.
- Strict biosecurity measures need to be implemented immediately (and ideally before an outbreak) to prevent or slow the spread of HPAI.

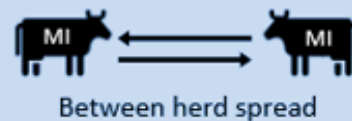
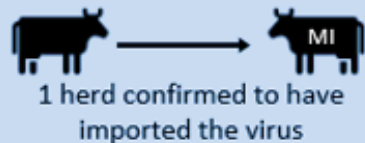




## Action Happening in Parallel to the Incident Management Team and Federal & State Orders

- At MDARD invitation, USDA, MSU College of Vet Med, MDARD collaboration to understand virus shed behavior & risk.
- At MDARD invitation, USDA Epidemiology Strike Team in Michigan in April, May, and parts of June. Continued work understanding likely, multi-factorial transmission paths.
- USDA APHIS NVSL genomic sequencing ongoing, understanding links and mutation characteristics of the virus.
- FDA retail milk sampling and pasteurization validation tests (both ongoing). 297 retail dairy product samples tested to date affirming pasteurization as an effective kill step.
- MDARD collaboratively working with MDHHS & Local Public Health Department for ongoing monitoring of exposed farm employees.
- CDC collaboration with USDA, FDA & state and local partners on PPE, public health risk evaluation, other.

## Animal Movements



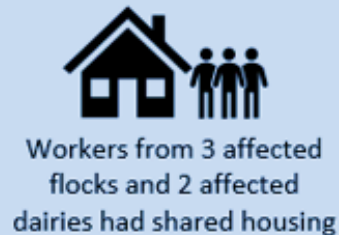
# Transmission Mapping

Potential transmission pathways supported by identified epidemiological links including animal and human movements and shared vehicles and equipment for the 15 dairy herds and 8 poultry flocks affected with HPAI H5N1 genotype B3.13 in Michigan.



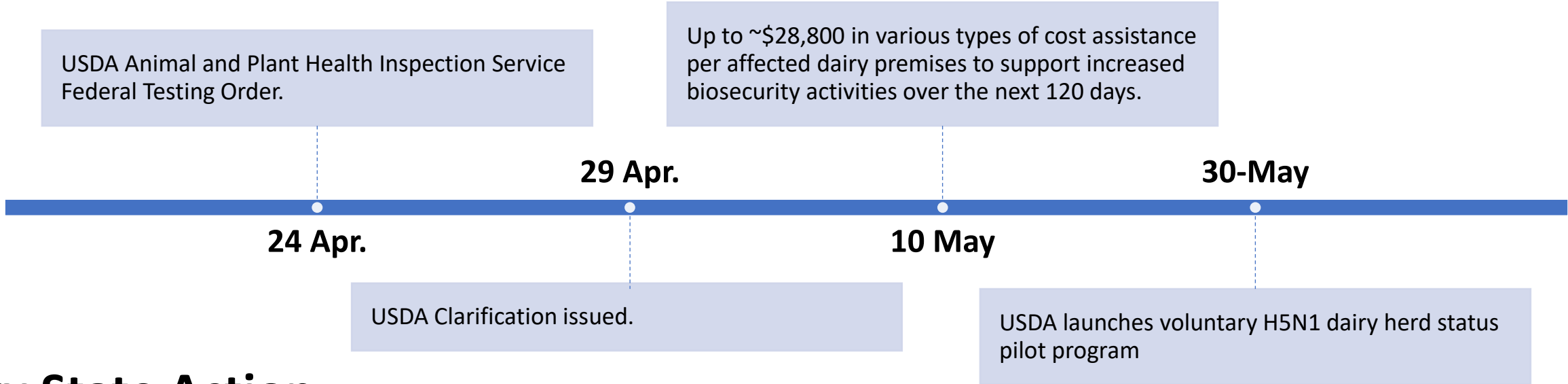
Visitors,  
Shared  
Vehicles,  
and  
Equipment

## Shared Workers

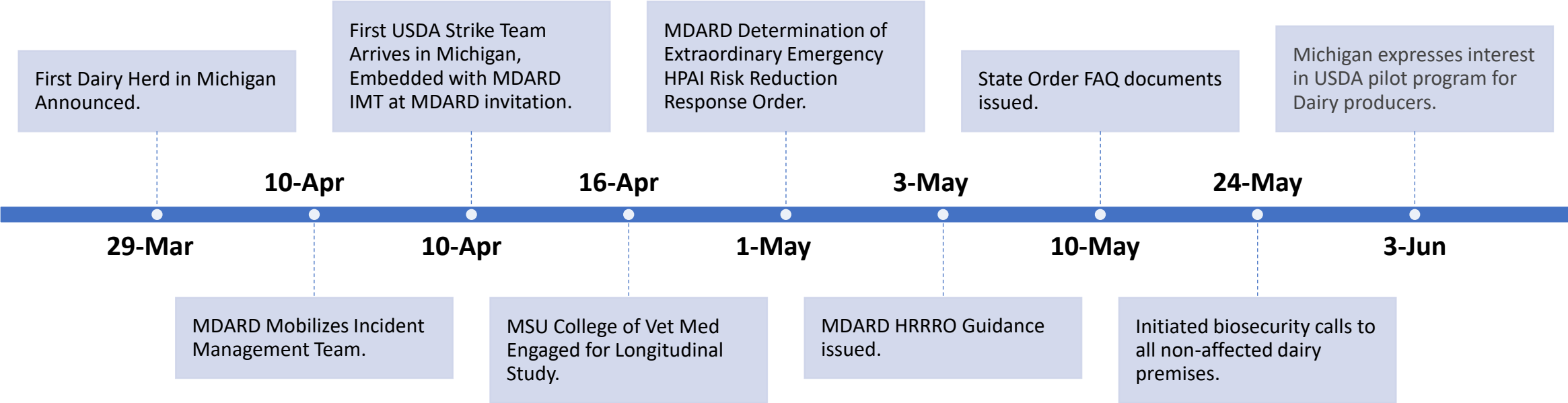


Local  
Wildlife &  
Peri-  
domestic  
Species

# Dairy Federal Action



# Dairy State Action





# USDA APHIS Order

*In order to continue to monitor and understand the extent of this virus and reduce the risk of further disseminating HPAI H5N1 virus, resulting in greater threats to poultry and livestock, this Federal Order requires the following measures, effective Monday, April 29, 2024.*

## Mandatory Testing for Interstate Movement of Dairy Cattle

- *Prior to interstate movement, dairy cattle are required to receive a negative test for Influenza A virus at an approved National Animal Health Laboratory Network (NAHLN) laboratory.*
- *Owners of herds in which dairy cattle test positive for interstate movement will be required to provide epidemiological information, including animal movement tracing.*
- *Dairy cattle moving interstate must adhere to conditions specified by APHIS.*
- *As will be described in forthcoming guidance, these steps will be immediately required for lactating dairy cattle, while these requirements for other classes of dairy cattle will be based on scientific factors concerning the virus and its evolving risk profile.*

## Mandatory Reporting

- *Laboratories and state veterinarians must report positive Influenza A nucleic acid detection diagnostic results (e.g. PCR or genetic sequencing) in livestock to USDA APHIS.*
- *Laboratories and state veterinarians must report positive Influenza A serology diagnostic results in livestock to USDA APHIS.*

# Adaptive Departmental Response During an Evolving Situation

**Detection in Michigan Dairy Herds**



**Detection in Michigan Poultry Flocks**



**Food Safety Validation**



**Two Michigan Farmworkers Test Positive**

- MDARD mobilizes Incident Management Team.
- Initiate contact with affected producers.
- USDA “Strike Team” arrives, begins transmission tracking and research.

- Initiate contact with all industry stakeholders.
- USDA “Color Team” arrives, integrated with Incident Management Team.
- USDA provides recommendations around proposed biosecurity methods to decrease transmission and halt spread.

- Federal studies continue to show that pasteurized milk, meat, and eggs are safe to consume when prepared correctly.
- MDARD/MDHHS continue to provide informational resources regarding safe food consumption, storage, and handling practices.
- Michigan expresses interest in USDA pilot program for dairy producers.

- Continued offer of PPE to farm workers.
- MDARD/MDHHS distribute additional informational resources on worker safety.

# MDARD Authority under the Animal Industry Act (Public Act 466 of 1988)

## **287.703a Determination of extraordinary emergency; notice to governor; recommendations; proclamation of state emergency; emergency order.**

Sec. 3a. (1) If the director determines that a disease or condition in animals in this state poses an extraordinary emergency to the animal industry, public health, or human food chain of this state, the director shall notify the governor of the determination and the reasons for this determination. The director shall recommend to the governor the procedures the director considers necessary to eliminate the threat.

(2) Upon being notified, the governor may issue a proclamation declaring a state of emergency. After proclamation of a state of emergency by the governor, the governor may expedite necessary procedures to control the spread of, or to eradicate, the disease or condition.

(3) The director may develop, implement, and enforce a scientifically based extraordinary emergency order if the director determines that a delayed response to a specific reportable animal disease or condition in animals will cause a significant impact on animals, an animal industry, or public health. The extraordinary emergency order shall be specific and shall consider the impact on animals and product movement. An extraordinary emergency order shall not be in effect for more than 72 hours without notification to and advice from the impacted animal industry and in no case shall remain effective for longer than 6 months. The director shall act in consultation with the director of the department of health and human services if there is an extraordinary emergency causing a significant impact on public health.

**History:** Add. 2019, Act 132, Eff. Feb. 19, 2020.

## **287.703b Scientifically based orders; requirements; revision or rescission of orders; enforcement; authority to enter into agreements.**

Sec. 3b. (1) The director may develop, implement, and enforce scientifically based orders. These orders may include requirements for testing, animal or premises identification, record keeping, premovement documentation, or on-farm management practices that must be completed before the movement of animals from any premises within this state, or between premises within this state.

(2) Before issuing an order described in subsection (1), the department shall comply with all of the following to ensure public notice and opportunity for public comment:

(a) The department shall develop scientifically based requirements with advice and consultation from the impacted animal industry and veterinary professionals.

(b) The department shall place the proposed requirements on the commission of agriculture and rural

- Under PA 466 of 1988, the director of MDARD may issue a “**scientifically based extraordinary emergency order**” when circumstances permit, to address a reportable animal disease or condition.
- The targeted disease must be able to cause a “**significant impact on animals, an animal industry or public health.**”
- The May 1<sup>st</sup> Order from MDARD was based on the most recent science regarding HPAI and utilized practices from the “Safe Milk Supply Plan,” developed to address a different illness.

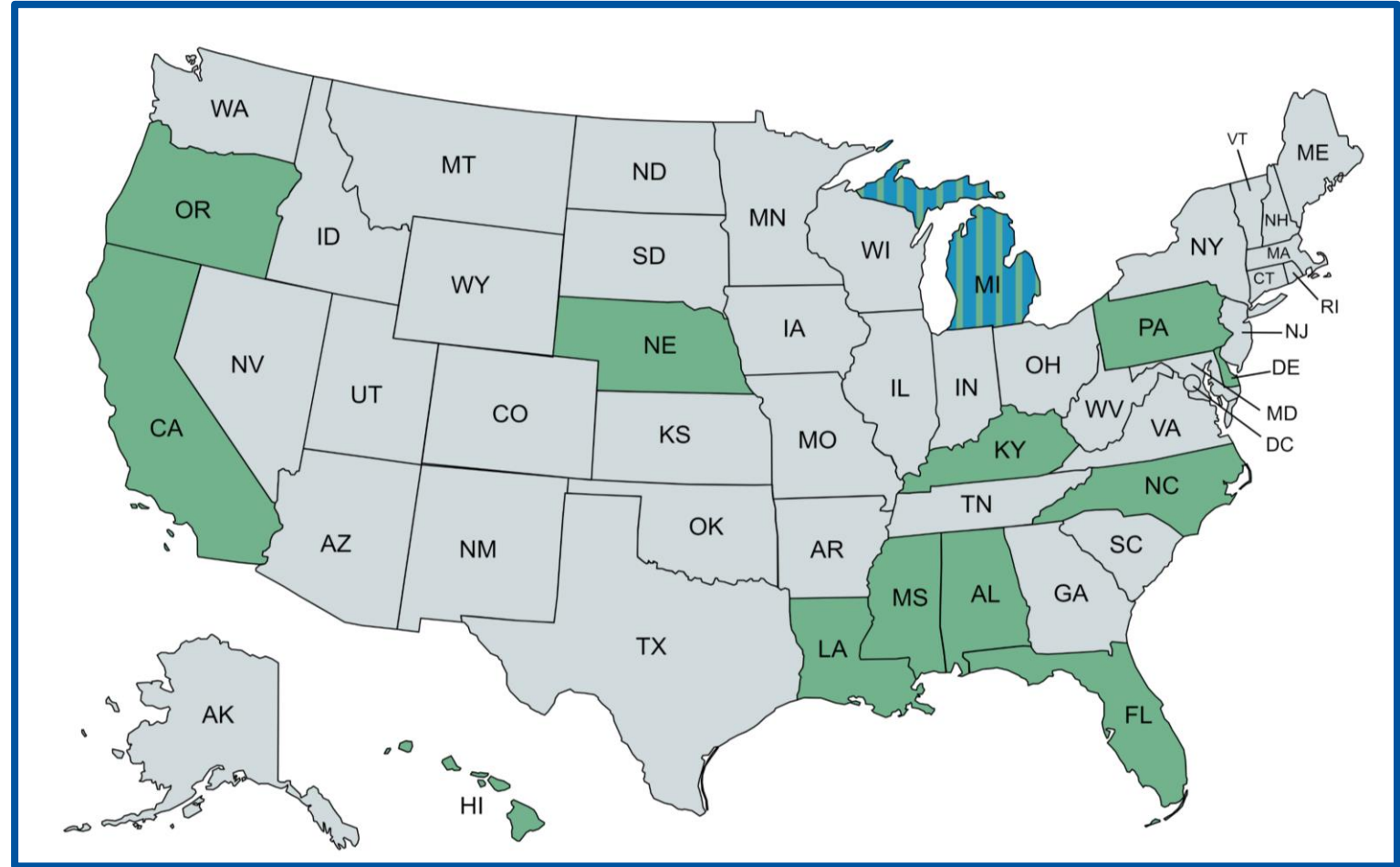


# Determination of Extraordinary Emergency, HPAI Risk Reduction Response Order

- *All Michigan dairy farms, as well as poultry operations considered commercial by the U.S. Department of Agriculture Animal & Plant Health Inspection Service (APHIS) must develop and implement biosecurity practices that include:*
  - *Designation of a biosecurity manager.*
  - *Designation of a line of separation to represent the perimeter of a secure area, limiting access points.*
  - *Establishment of cleaning and disinfection practices and procedures at those access points for both vehicles and individuals. This must include deliveries of feed and other supplies, and training for employees.*
  - *Establishment of a logbook maintaining a record of all vehicles and of individuals who have gotten out of vehicles and crossed those access points, to be retained and made available for examination upon request by MDARD.*
- *All lactating dairy cattle, and those in the last two months of pregnancy, are prohibited from being exhibited until there are no new cases of HPAI in dairy cattle in the State of Michigan for at least 60 consecutive days. No dairy cattle of any age from an infected premises may be exhibited until further notice.*
- *All exhibitions or expositions of poultry are prohibited until such time that there are no new cases of HPAI in domestic poultry in the State of Michigan for at least 30 consecutive days. As defined in the Animal Industry Act, “poultry” means, but is not limited to, chickens, guinea fowl, turkeys, waterfowl, pigeons, doves, peafowl, and game birds that are propagated and maintained under the husbandry of humans (MCL 287.703(iii)).*

# State Orders Overview

- Twelve states in addition to Michigan have issued movement restrictions or quarantine requirements beyond what is required under the federal USDA APHIS Order.
- Only Michigan has implemented biosecurity practices based on the safe milk supply plan.
- Only Michigan has implemented requirements around fairs and exhibitions beyond the federal order.



# Biosecurity Considerations

- Biosecurity is of utmost importance in controlling and containing the virus.
- Biosecurity measures need to be implemented immediately (and ideally before an outbreak) to prevent or slow the spread of HPAI.
- **In the 2014–2015 HPAI outbreak in the United States, biosecurity breaches and inadequately implemented biosecurity measures were cited as one of multiple potential reasons for widespread HPAI transmission in the Midwest.**

## Personal Protective Equipment

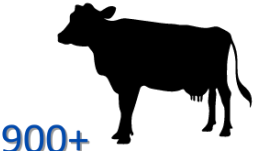


## Tire Washing Stations



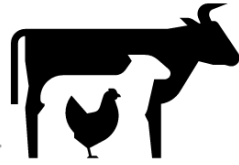
## Line of Separation Signage





900+

Dairy producers contacted by US mail five times with HPAI updates.



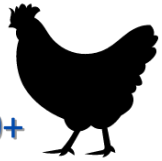
280+

Licensed livestock dealers contacted seven times with HPAI updates and information.



60+

Agriculture association leaders provided weekly updates.



60+

Michigan Allied Poultry Industry members contacted with weekly meetings and dozens of phone calls and emails with the executive director.



7,900+

Veterinarians invited to attend regular HPAI briefings.



2100+

Contacts from agriculture industry including, trucker, milk hauling, grain dealers.

# MDARD Direct Stakeholder Outreach

- Weekly meetings with Poultry Industry Representatives.
- Weekly meetings with Michigan Dairy Industry Representatives.
- Semi-weekly calls to all licensed Michigan veterinarians.
- Weekly outreach to key agricultural legislative leaders, local public health, local emergency management, agricultural industry stakeholders.
- Continuing outreach to Michigan Association of Fairs and Exhibitions, MSU Extension, youth groups.

**Total Direct Contacts to Industry Stakeholders: 160,000+**

# Sampling of Michigan and National Media Coverage

- Total Potential Media Reach: 2,778,017,693
- Media Interviews by Director Boring: 50+
- Additional interviews by Dr. Wineland and other state employees.

National News Source	Total Reach
Reuters	126,847,571
USA Today	80,347,851
Trading View	80,004,062
AOL News	73,475,952
U.S. News & World Report	69,269,753
CBS News	58,085,501
The Hill	38,833,876
NPR	38,579,868
Brownfield Ag News	89,074

Michigan News Sources	Total Reach
Detroit Free Press	184,733,504
MLive.com	80,989,008
Wood TV	5,190,600
Bridge Magazine	3,203,272
Lansing State Journal	2,435,527
Monroe Evening News	2,126,064
The Toledo Blade	1,940,774
WLNS-TV	1,214,040
WWTV-TV	751,200
WXMI-TV	746,404
Tri-City Herald	478,610
Michigan Radio	433,000
Michigan Advance	407,572
Belleville News-Democrat	347,920
Michigan Farm News	275,750
WWTV (CBS)	192,008
The Morning Sun	134,609
WKAR-AM	86,673
WXMI-GR (FOX)	73,936
Cadillac News	62,143
WILX (NBC)	57,109



MDARD Director Tim Boring Signs 'HPAI Risk Reduction Response Order' Determination of Extraordinary Animal Health Emergency in Response to the Ongoing HPAI Outbreak in Michigan

Obituaries eNewspaper Legals

An official publication of Michigan Farm Bureau

# HPAI recommendations for beef producers

# How Michigan became ground zero for H5 avian influenza in the US



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## HPAI Resources

Updated May 23 with USDA announcement of resources to

Bridge MICHIGAN Michigan's nonpartisan, nonprofit news source



NEWS

## MICHIGAN ASSESSING HPAI RESPONSE NEEDS

MDARD issuing new procedures for dairy, poultry aiming to prevent spread of avian flu

TRENDING: Coronavirus Michigan | Gov. Gretchen Whitmer | Michigan K-12 schools Rural Michigan

Michigan Health Watch

## Michigan farmers must step up b under new emergency order

Lansing State Journal

Sports High Schools Life Advertise Obituaries eNewspaper Legals

## LOCAL Bird flu in Michigan: How bad is it? What does it mean for eggs, milk?



# Food Safety & Human Health

- **Continued studies show that meat, pasteurized milk, and eggs are safe to consume when prepared correctly.**
- MDARD continues to message on food safety.
- The risk to human health continues to be low.
- Two farmworker cases in Michigan, both have recovered.

**Importance** Highly pathogenic avian influenza virus (HPAIV) infections in US dairy cattle were first confirmed in March 2024. Because the virus could be detected in raw milk a study was conducted to determine whether it had entered the retail food supply. Pasteurized dairy products were collected from 17 states in April 2024. Viral RNA was detected in 1 in 5 samples but **infectious virus was not detected.** This provides a snap-shot of HPAIV in milk products early in the event and reinforces that **with numerous safety measures, infectious virus in milk is unlikely to enter the food supply.**

## **Are eggs in the retail market safe to eat?**

Yes. The likelihood that eggs from infected poultry are found in the retail market is low and proper storage and preparation further reduce the risk. In 2010, the U.S. Food and Drug Administration (FDA) participated in a joint risk assessment with the USDA Food Safety and Inspection Service (FSIS) to examine the human health impact of HPAI in poultry, shell eggs, and egg products. **The risk assessment determined that the risk of humans becoming infected with HPAI through the consumption of contaminated shell eggs is low.** For instance, when a case of HPAI is detected in the US, the chance of infected poultry or eggs entering the food chain is low because of the rapid onset of symptoms in poultry as well as the safeguards in place, which include testing of flocks and federal inspection programs.

***“We are concerned about this virus having the opportunity to mutate and become a dangerous human pathogen.”***

Deputy Commissioner Jim Jones, Food and Drug Administration

MDARD will continue as part of Michigan's proactive, “One Health” approach to lead the national response to this ongoing animal and human health threat, protecting poultry and dairy food safety, maintaining supply chains, and keeping farmers farming.

# Next Steps

- Continued focus on:
  - Collaborative effort on public health awareness, particularly for job-related exposures; PPE offer out to all Michigan dairy farms;
  - Incident response in poultry—continue to implement USDA guidelines with producers;
  - Understanding more about the virus, transmission pathways to poultry and dairy, including spread in cattle and possible fomite carriers (Epi work/USDA programs);
  - Engage USDA on Voluntary Pilot Program for herds determining prevalence and herd clearance options;
  - Continually working to ensure safety of the food supply;
  - Additional guidance to fairs and exhibitions.
  - MDARD facilitation between USDA and Michigan dairies for USDA assistance;
  - Continued collaboration with government and industry partners on science-led and risk-reduction policy decision making and response.
  - Exposure monitoring in cooperation with MDHHS; surveillance of potential public health risks with state, federal and local partners.





For More Information  
Email: [MDA-Info@Michigan.gov](mailto:MDA-Info@Michigan.gov)  
[www.Michigan.gov/birdflu](http://www.Michigan.gov/birdflu)

# Thank you!

## Reporting Hotlines

Domestic Animals--MDARD  
800-292-3939 (Daytime)  
517-373-0440 (After-hours)

Human Health—MDHHS  
517-335-8165 (Daytime)  
517-335-9030 (After-hours)

Wild Animals – DNR  
517-336-5030  
[Eyes in the Field](#) Online Form

