



# EXCITE

Extension Collaborative on  
Immunization Teaching & Engagement

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& Associate Director, EXCITE

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H5N1 Dairy Specialist

## Keeping our Farms and Communities Safe: Protecting Against H5N1



# EXCITE National Partners



Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™



National Institute of Food and Agriculture  
UNITED STATES DEPARTMENT OF AGRICULTURE

EXTENSION  
FOUNDATION



**EXCITE**

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# Statement of Problem



- H5N1 is a strain of the influenza A that primarily infects birds.
  - Mostly spread by wild birds
  - Can infect domestic poultry leading to mass depopulation of poultry facilities causing major economic damage
- This strain has spread to many wild mammals
- In March of 2025 the First Bovine case of H5N1 was confirmed.
  - This was novel as Influenza A was not known to be able to infect bovine.
  - High levels of virus were shed in milk
- Human Concerns
  - Farm workers often get splashed with possibly infected milk while milking
  - Recombination of H5N1 with other flu viruses in swine or humans is a major concern



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# H5N1: Merger of Extension Efforts of Animal Health and Human Health

## Key Objectives

1. Cooperative Extension Dairy Agents will **increase their knowledge and understanding of H5N1 and gain knowledge and enhance skills in behavior change communication** as it relates to human health.
2. Dairy producers will have an **increased knowledge and understanding of H5N1 and the potential transference and impact on human health and animal health.**
3. Dairy producers will **adopt prevention practices** on farm to reduce human and animal health risk of H5N1.

## LATEST RESOURCES

### New Resources Available

See what's been added!

[Keeping Our Farms Safe Protecting Against H5N1 – EXCITE H5N1 Factsheet Booklet — NEW](#)

- [Order free booklets for your institution here!](#)

[A Checklist for Swine Exhibition Organizers — NEW](#)



**Print and Media Resources**



**Food Safety**



**Upcoming Events and Opportunities**



**Supporting Websites for General Information**



**USDA Actions and Regulations**



**On-Farm Biosecurity Recommendations and Training**



**Youth Livestock Events and Shows**



**Poultry Resources**



# H5N1 Funded Pilot States– California

## State-wide Webinars

- Updates on HPAI outbreak – CDFA
- Understanding of HPAI transmission
- Veterinary practitioners approach to HPAI
- Dairy producers approach to HPAI (CO, Midwest, CA)
- Updates from State Diagnostic Labs (focus on abortions)
- Financial Assistance
- VMTRC Clinical Service Experience
- Resources at CDC and OSHA
- CDFA updates on research projects

- Total of 6 webinars
- Starting at 4 pm
- Hosted by California Milk Advisory Board
- Webinars accessible online with request
- Length: 2 h (first) and 1 h (5)

## Webinars: Outcomes

- **Attendance:** 78 to 220 attendees
- **Positive Feedback:** emails from dairy farmers and consultants → very informative
- **Growing Network:** Requests to be added to email distribution list for future updates
- **Media Coverage:** Broadened reach and awareness



**MANAGING CATTLE THROUGH HPAI**  
Join dairy industry partners for a panel discussion on HPAI in California

Leading private practice veterinarians, Dr. Minnema and Dr. Beal, will discuss treatment of cows with HPAI and managing the herd if virus is introduced.

Dr. Lombard, the foremost veterinary epidemiologist on the subject will share information on how the virus is transmitted and tips for herd protection.

Dr. Ward of CDFA will provide a California-HPAI update

\*Attendance is free to industry members but registration is **required**

**PANELISTS**



Dr. Natalie Ward  
CDFA

Dr. Maxwell Beal  
Mill Creek Veterinary

Dr. Jason Lombard  
Colorado State University

Dr. Murray Minnema  
Valley Veterinarians, Inc.

**REGISTRATION:**

September 26th, 2024  
4:00 pm

[REGISTER HERE](#)

**Managing Cattle through HPAI**  
Join dairy industry partners for a panel discussion in our continuing series on HPAI in California

This week, join Dr. Blaine Nicks, Veterinarian and Director of Herd Operations for Jager Ag as he shares his insights in managing farms through HPAI infections.

Following Dr. Nicks, we will open up for producer Q&A

\*Attendance is free to industry members but registration is **required**

**PANELIST**



Dr. Blaine Nicks  
Jager Ag

**REGISTRATION:**

October 9th, 2024  
4:00 pm

[REGISTER HERE](#)

**Coping with HPAI in California Dairy Herds**  
Join dairy industry partners for a panel discussion in our continuing series on HPAI in California

This week, join us as we hear from Christopher Rosedale, Tulare County USDA-FSA Director for an in-depth look at HPAI assistance programs. We'll also have an update from Dr. Natalie Ward of CDFA. Finally, we will be joined by two California Dairy Farmers whose farms have been affected by HPAI. The discussion will include their personal experiences with the disease, quarantine process, and a Q&A

\*Attendance is free to industry members but registration is **required**

**REGISTRATION:**

October 24th, 2024  
4:00 pm

[https://umh.zoom.us/join/register?w=H5N1&from=hpai&from\\_hpai](https://umh.zoom.us/join/register?w=H5N1&from=hpai&from_hpai)

[REGISTER HERE](#)

# H5N1 Funded Pilot States–



## Needs Assessment: CDPH

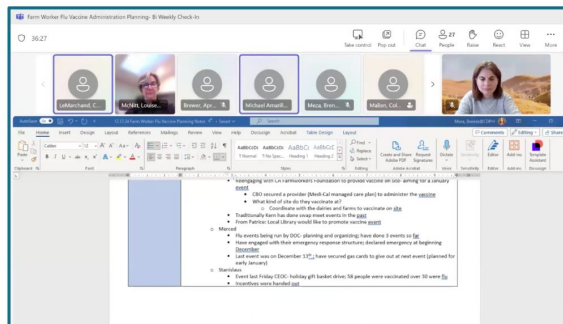
Who does CDPH engage with to support vaccination efforts among dairy workers? What type of support they provide?

UC Merced Community and Labor Center



How do CDPH coordinates with County Health & Human Services vaccination activities?

WESTERN UNITED DAIRIES



Extension Collaborative on  
Immunization Teaching & Engagement

## H5N1 Funded Pilot States–



## Needs Assessment: County HHS

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Pilot vaccine clinic partnership  
between Glen County HHS and  
Farm Bureau

## Needs Assessment: County HHS

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Farmers and workers can go to the Fresno Department Public Health website to check for dates and locations of mobile clinics  
<https://www.fresnocountyca.gov/Departments/Public-Health/About-Us/Fresno-County-Rural-Mobile-Health>

On site mobile clinics available dairies' requests.


Fresno County Rural Mobile Health




# H5N1 Funded Pilot States-

## UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources

UNIVERSITY OF CALIFORNIA  
Agriculture and Natural Resources

 **UC DAVIS**  
VETERINARY MEDICINE

USDA HPAI



### Highly pathogenic avian influenza (HPAI) in cattle

A new disease has been identified in **cows**, highly pathogenic avian influenza (HPAI). It has been reported in dairy herds in Texas, Kansas, Michigan, New Mexico, Idaho, Ohio, North Carolina, and South Dakota. Based on current data available, here are answers to some common questions:

#### What is HPAI?

**Source:**

- Wild migratory birds are believed to be the initial source of infection of this virus in cattle.

**Transmission risk:**

- Cow-to-cow cannot be ruled out.
- Cow-to-human transmission risk is possible but unlikely, and human cases remain very low.

#### How to reduce spread?

**Cattle movement into California:**

- Minimize animal movement into your dairy from affected areas.
- In April 2024, the California Department of Food and Agriculture (CDFA) *added restrictions* and *increased inspection* requirements for animal movements.

**Implement on-farm biosecurity:**

- Isolate suspected sick animals for HPAI.
- Use personal protective equipment (PPE, coverall, goggles, disposable gloves).
- Wash boots before entering premises.

#### When to suspect?

**Herd-level**

- Drop in bulk tank milk yield and pen feed intakes.
- Higher than usual cow numbers in the hospital pen.

#### No depopulation is needed.

- Current cases indicate only ~10 to 20% of cows in the herd become sick.
- Low to no reported cattle deaths from HPAI.

**CALL TO CONFIRM A HERD CASE**

- California Animal Health Official **(916) 900-5002**.
- Local CDFA Animal Health Branch District Office.

#### Reduce risk of human transmission

**Protect Yourself:**

- Wear goggles, gloves, and a face mask when handling sick or dead animals and their feces (cattle, goats, and birds), and wash your clothes with disinfectant.

**Avoid Possible Contaminated Foods:**

- Raw or uncooked foods, especially unpasteurized (raw) cheese or milk.

**If exposed:**


**Monitor Your Symptoms:**

- Check for respiratory symptoms and eye redness for 10 days.


**If Sick:**

- Go to the doctor.
- Isolate yourself from others, including household

UNIVERSITY OF CALIFORNIA  
Agriculture and Natural Resources

 **UC DAVIS**  
VETERINARY MEDICINE

USDA HPAI



### Influenza Aviar Altamente Patógena (IAAP o HPAI) en vacas

Se ha detectado una enfermedad nueva que afecta a las vacas, la Influenza Aviar Altamente Patógena (IAAP o HPAI). Se ha sido reportado en rebaños lecheros de Texas, Kansas, Michigan, Nuevo México, Idaho, Ohio, Dakota del Sur, Carolina del Norte. Según los datos actuales disponibles, aquí hay respuestas a algunas preguntas comunes:

#### ¿Qué es la IAAP?

**Origen:**

- Se cree que las aves migratorias salvajes son la fuente inicial de infección de este virus en el ganado.

**Riesgo de Transmisión:**

- El contagio entre vacas no puede descartarse.
- El riesgo de transmisión de vaca a humano es sospechado pero los casos se mantienen muy bajos.

#### ¿Cómo reducir el contagio?

**Movimiento de ganado hacia California:**

- Minimice la llegada de vacas de áreas afectadas.
- En abril de 2024, el Departamento de Alimentos y Agricultura de California (CDFA) añadió restricciones y aumentó los requerimientos de inspección para el desplazamiento de animales.

**Implementaciones en la bioseguridad de la granja:**

- Aísle los animales sospechosos de IAAP.
- Use equipo de protección personal (EPP; overol, gafas, guantes).
- Lave sus botas antes de entrar al rebaño.

#### ¿Cuándo sospechar?

**A nivel de rebaño**

- Disminución de la producción de leche en tanque y del consumo de alimento en corrales.

#### No es necesaria la despoblación

- Los casos actuales indican que sólo del 10 al 20% de las vacas en el rebaño se enferman.
- No ha habido muertes confirmadas por IAAP.

**PARA CONFIRMAR UN CASO EN EL GANADO**

- Oficial de Salud Animal de California **(916) 900-5002**.
- Oficina local del distrito de CDFA.

#### Reduce el riesgo de transmisión

**Protéjase:**

- Use gafas, guantes y mascarilla cuando manipule animales enfermos o muertos y sus heces (ganado, cabras y pájaros). Desinfecte sus ropas.

**Evite comidas posiblemente contaminadas:**

- Comidas crudas o sin cocinar, especialmente queso y leche sin pasteurizar (crudo).

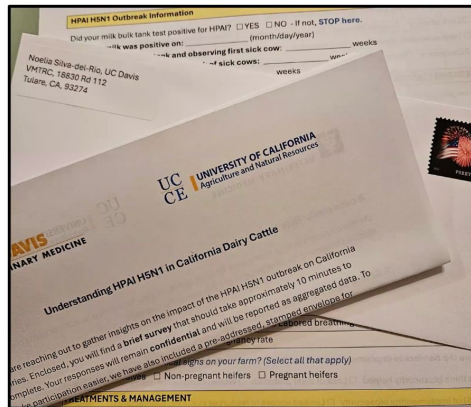
**Si ha sido expuesto:**

- Esté alerta a síntomas respiratorios y ojos rojos por 10 días.

**Si se siente enfermo:**

- Vaya al doctor si se siente enfermo.
- Aíslase de los demás, incluyendo de los miembros de su hogar.

# Dairy Producer Perception of Outbreak



## Survey Themes:

- General Demographic Info
- Outbreak Description (Duration, % of Herd affected, Time positive)
- Clinical Presentation
- Treatment Decisions
- Lessons Learned
- Economic Implications
- Vaccination Perception and Biosecurity

## Dairy Workers Biosecurity

### Have you been vaccinated for flu or COVID?

- 34% vaccinated in the last 12 months
- 51% vaccinated 1–5 years ago
- 11% never vaccinated
- 4% vaccinated > 5 years ago

## Biosecurity Importance and Barriers

Would you recommend to improve biosecurity to other dairy producers?

16% YES

Would you recommend to provide biosecurity training to employees?

12% YES

## Are you willing to get vaccinated if offered on-farm?

- 71% Yes
- 23% Maybe
- 7% No

## Why did you replied “No” or “Maybe”?

- 10% Lack of trust in vaccines
- 8% Work schedule does not allow time
- 4% Limited access to vaccines
- 3% Lack of interest
- 3% Health-related concerns or vaccination requirements



## Biosecurity Importance and Barriers

### What are the barriers to implement biosecurity?

- 88% Biosecurity does not work
- 10% Lack of protocols
- 15% Worker compliance
- 17% Cost
- 6% Limited access to resources

# Video Production

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## What are vaccines and how they work on animals?

- Why Animal Health Matters
- Vaccination as a Prevention Tool
- How the Immune System Works
- How Vaccines Prepare the Immune System
- Conditions for an Effective Vaccine Response
- Similarities in Vaccine Response between Animals and Humans
- Why Worker Vaccination Matters on Farms

# H5N1 Funded Pilot States– Michigan

## H5N1 Education for dairy producers in Michigan



Education (i.e., training) sessions across Michigan



Distribution of personal protective equipment (PPE) supplies

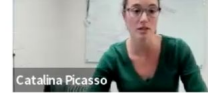


Development and Implementation of focus groups

# H5N1 Funded Pilot States– Michigan

## Training initiatives:

- Videos (Spanish/English):
  - [PPE use](#)
  - [HPAI Transmission](#)
- Farm visits: UP, LP

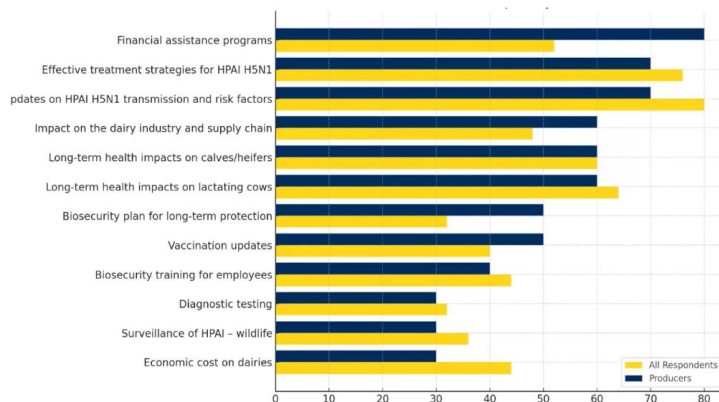


Visited 20 farms in UP and LP (60 farmers/workers)



# H5N1 Funded Pilot States– Michigan

## Future Webinars Topics – Interest Level



- Financial Assistance
- Treatments, Transmission
- Long Term Health Implications, and Impact to the Dairy Industry
- Biosecurity and Vaccination
- Testing, biosecurity for employees, surveillance, economic cost

# H5N1 Funded Pilot States– Michigan

## Focus group

### Focus group strategy:

- to gain insights into practices and beliefs that may influence the risk of future zoonotic disease emergence.
- culturally sensitive

### Methodology:

- Build a team of Veterinarians, Dairy Specialists, Sociologist, Extensionist, and Students (with some Spanish speakers).
- Development and training of the team (moderators, note takers, etc).
- Validate the questions and dynamics on a dairy farm
- We contacted the farms by visiting them, sending notes explaining the project.



# H5N1 Funded Pilot States– Michigan

## Preliminary highlights and insights:

### 1. Barriers to PPE Use

- **Limited access/availability** of PPE on the farm.
- **Discomfort** (heat, restricted movement, interference with tasks).
- **Cultural** social mockery, being teased for wearing PPE.

### 2. Motivators for PPE Use

- **Protecting animals** from diseases and avoiding contamination of milking areas/calves.
- **Personal hygiene:** staying clean during shifts and preventing transport of manure/dirt home.

### 3. Misunderstandings of PPE Purpose

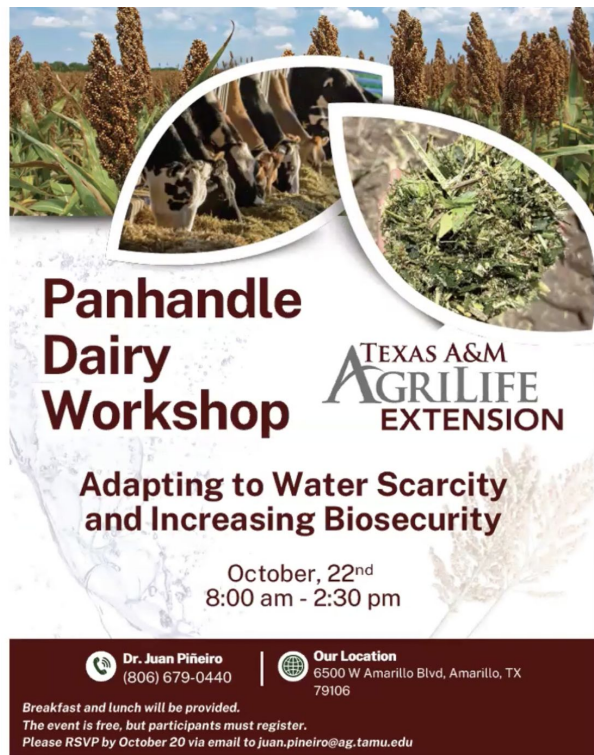
- **Boots** viewed as protection against slippery floors, not biosecurity.
- **Back braces** considered PPE despite being ergonomic supports, not infection-control tools.



# H5N1 Funded Pilot States– Michigan



# H5N1 Funded Pilot States– Texas



**Panhandle Dairy Workshop**

TEXAS A&M AGRILIFE EXTENSION

**Adapting to Water Scarcity and Increasing Biosecurity**

October, 22<sup>nd</sup>  
8:00 am - 2:30 pm

**Dr. Juan Pineiro**  
(806) 679-0440

**Our Location**  
6500 W Amarillo Blvd, Amarillo, TX 79106

Breakfast and lunch will be provided.  
The event is free, but participants must register.  
Please RSVP by October 20 via email to [juan.pineiro@ag.tamu.edu](mailto:juan.pineiro@ag.tamu.edu)

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**SOUTHWEST DAIRY DAY**

**PRESENTATIONS**

Guarding Against the Return of the New World Screwworm: History, Risks, and Prevention.  
*Dr. Swiger*

Protecting Dairy Farms from HPAI: Concerns, Risks, and Prevention.  
*Dr. Paudyal*

Manure Management Updates.  
*Dr. Liu*

4 DOPA CEU's      9:30 to 3:00 PM      Cost \$10.00

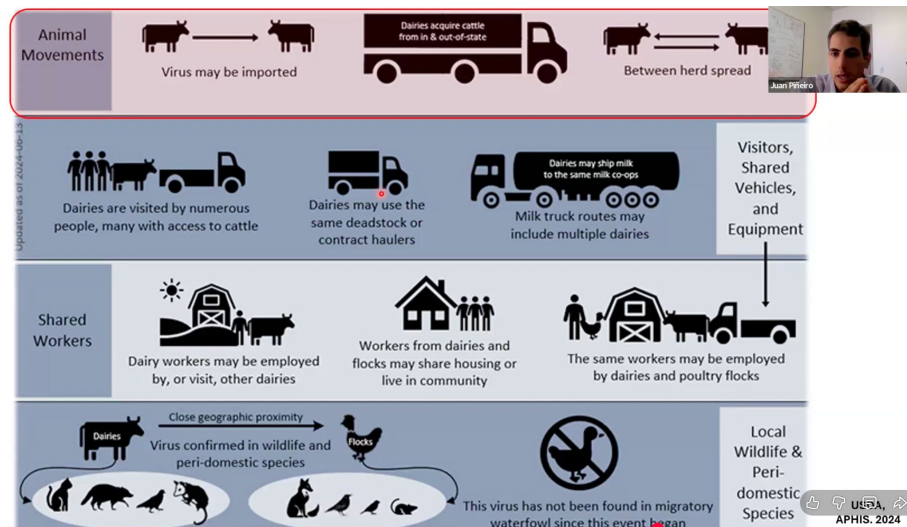
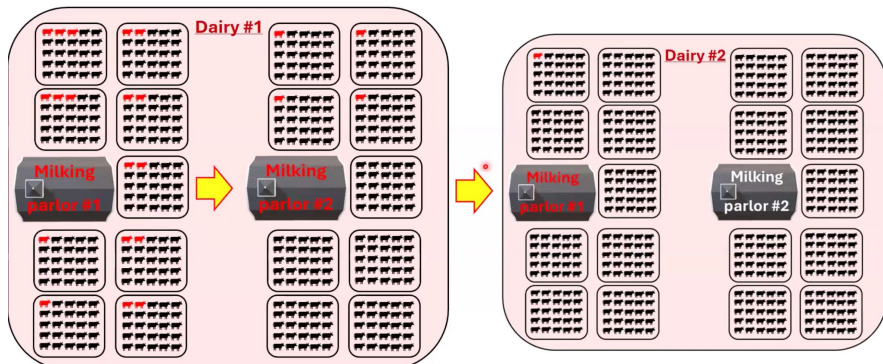
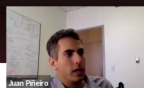
09:30 AM      Registration

10:00 AM      **Respiratory diseases: Epidemiology of H5N1 and milk management during outbreaks**  
Juan Pineiro and Sushil Paudyal – Texas A&M AgriLife Extension,  
Hank Hayes, Texas Animal Health Commission

11:00 AM      **Dairy Research Updates and Screwworm Potential and Threat**  
Sonja Swiger, Texas A&M AgriLife Extension

# H5N1 Funded Pilot States– Texas

## Schematic representation of the sequence of events



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# H5N1 Funded Pilot States– Utah

## Spring Dairy Show

- Held in mid-April
- Started in the 60's by Anderson Family
- Youth Presentation Night



- 5th Annual Cheese and Dairy Festival April 17-18, 2026
- Traditionally held in September



## Cache County Fair Dairy Show

- Dairy Shows
  - 4-H /FFA Market
  - 4-H/FFA Junior Dairy
  - Open
- Producer interaction



## 2025 Utah Dairy Conference

- Drone Use on Dairy Farms
- Effectiveness and Producers' Perceptions of Camera-based Technology Detecting Hoof Lesions in Dairy Cows Compared to Foot Trimmers Findings
- Dairy HPAI/H5N1: Exploring How the Virus Moves and Where it Was Found on Dairies in 4 States
- Toward Greater Efficiency: Nutrition Research for Dairy Cows at USU
- Making Puzzle Pieces Fit: How Forage Choices Affect Other Feed Inputs



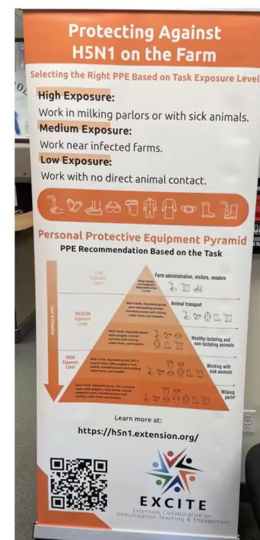
# H5N1 Funded Pilot States– Utah



## Utah Farm onsite Visits

### Impact

- 2 Biosecurity signs for every dairy farm in Utah
- Support of increased biosecurity measures
- Increase Extension network to dairy farms in Counties:
  - Cache
  - Weber
  - Millard
  - Box Elder
- 32,082 Lactating Cows, 20 Farms



# H5N1 Funded Pilot States– Utah

## Dairy Farm at 1/64 Scale



- Safety Scavenger Hunt
- Dairy Dozen
- 2025 Presented at:
  - Cache County Fair
  - Dairy Education Night
  - 3 Ag Days for Youth

# H5N1 Funded Pilot States– Idaho

- EXCITE immunization education
- ECITE vaccination clinics and farm safety education



University of Idaho Extension programs that are making a difference in Idaho.

## UI Extension collaborative on immunization teaching and engagement

**AT A GLANCE**  
University of Idaho Extension educators and staff partnered with local health organizations and medical providers to help fill the gaps in education regarding COVID-19.

**The Situation**  
Overwhelming health disparities across the country were highlighted by the COVID-19 pandemic. In early 2020, Extension President, in cooperation with Extension Committee on Organization and Policy (ECOP), announced an interagency agreement with the United States Department of Agriculture—National Institute of Food and Agriculture (NIFA), and Centers for Disease Control and Prevention (CDC) to quickly respond to the needs of rural and underserved communities. Funding was offered to the Cooperative Extension System to form the Extension Collaborative on Immunization Teaching and Engagement (EXCITE). The immediate goal of this first funded project was to partner with local health providers to expand reliable messaging regarding COVID-19 vaccination. The long-term goal was to build a stronger immunization education model to address adult vaccine hesitancy, for not only COVID-19 but all immunizations.


**Our Response**  
UI Extension educators and specialists from multiple disciplines in six counties formed Idaho's EXCITE team and received funding for this education campaign. Activities (1) County and statewide data, along with key to frequent is constantly in vaccine and the EXCITE UI Extension following a focus state (Idaho, Nevada, South Dakota).

- County
- Statewide
- Weekly

UI Extension, 208 442 4022, 208 442 4023



UI Extension, 208 442 4022, 208 442 4023



University of Idaho Extension programs that are making a difference in Idaho.

## EXCITE team integrates farm safety and immunization education, access to vaccines


**AT A GLANCE**  
UI Extension's EXCITE team provided immunization education, vaccines, health screenings and farm safety presentations at two large Idaho dairies, vaccinating 225 of employees in attendance.

**The Situation**  
University of Idaho Extension team for the Extension Collaborative on Immunization Teaching and Engagement (EXCITE) coordinated and facilitated 18 educational mobile vaccine clinics between December 2021 and June 2022. The resulting observations and experiences aligned with those of many health providers and vaccine educators across the state: direct education and conversations with trusted messengers are necessary. However, the urgency of the pandemic was waning, and Idahoans were tired of talking about COVID-19. Considering that the EXCITE initiative addresses all adult immunizations and aims to serve rural and other underserved communities, Idaho's team sought to adapt their approach to immunization education for Hispanic agricultural workers in the second half of the two-year project.

**Our Response**  
In addition to integrating immunization education into other work-related topics, these second-year clinics included access to the Tdap (tetanus, diphtheria, pertussis) vaccine. Up-to-date protection against tetanus is highly relevant to agricultural workers, which increased both the personal and corporate value of the clinics.

In addition to integrating immunization education into other work-related topics, these second-year clinics included access to the Tdap (tetanus, diphtheria, pertussis) vaccine. Up-to-date protection against tetanus is highly relevant to agricultural workers, which increased both the personal and corporate value of the clinics.

UI Extension, Payette County  
208 442 4022 • 208 442 4024 Fax  
208 442 4026, Payette, ID 83424



UI Extension, Payette County  
208 442 4022 • 208 442 4024 Fax  
208 442 4026, Payette, ID 83424

# H5N1 Funded Pilot States– Idaho

## Evolving strategy

- Met with dairy producers' representatives
- Listen to dairy producers
- Listen to dairy workers and section managers
- Redefined audience and delivery methods
- Started program delivery
- Preparing for the future



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University of Idaho  
Extension

## The future

- Dairy West partnership synergy
- Middle Managers program
- Workers' safety programs
- Biosecurity programs for producers and Extension educators
- Include material and links in UI webpages
- Presence and impact beyond the life of the grant

Last 30 Days Cattle

## Situational Update

In the Last 30 Days, in Cattle, there were:  
**2 New Confirmed Cases in 2 States**

### Number of New Confirmed Cases in Cattle by State, Last 30 Days

Legend  
0  
1 to 5



# Dairy Herd Statistics

Choose time period  
Total Outbreak

Choose species  
Cattle

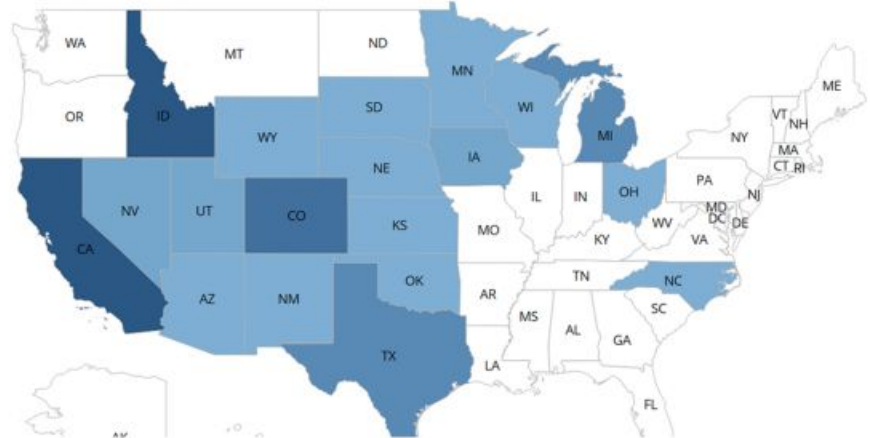
## Situational Update

[Click for International Exports](#)

In the Total Outbreak, in Cattle, there were:  
**1,084 Confirmed Cases in 19 States**

### Number of Confirmed Cases in Cattle by State, Total Outbreak

Legend  
0  
1 to 10  
11 to 25  
26 to 50  
51 to 75  
75+



Outbreak Situation Last 30 Days

90 Confirmed Flocks

Flocks tested and confirmed having HPAI

Commercial Flocks

33

Backyard Flocks

57

Birds Affected\*

0.88M

\*Number of birds on confirmed infected premises

Detections by Month

Bars reflect most recent 4 months.



# National situation summary since 2024

Person-to-person spread

NONE

There is no known person-to-person spread at this time.

Current public health risk

LOW

The current public health risk is Low.

Cases in the U.S.

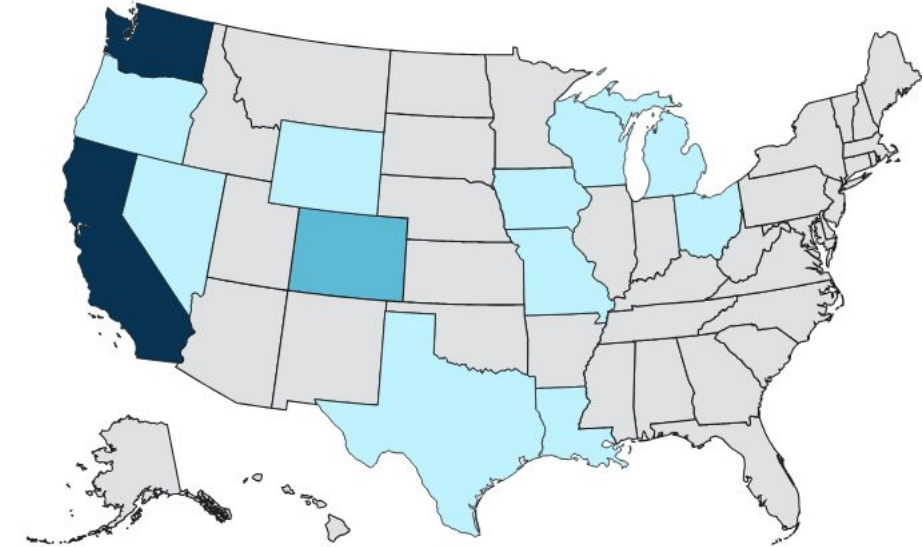
71 cases

Deaths in U.S.

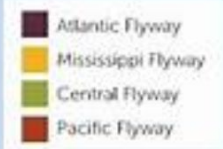
2 deaths

## National Total Cases: 71

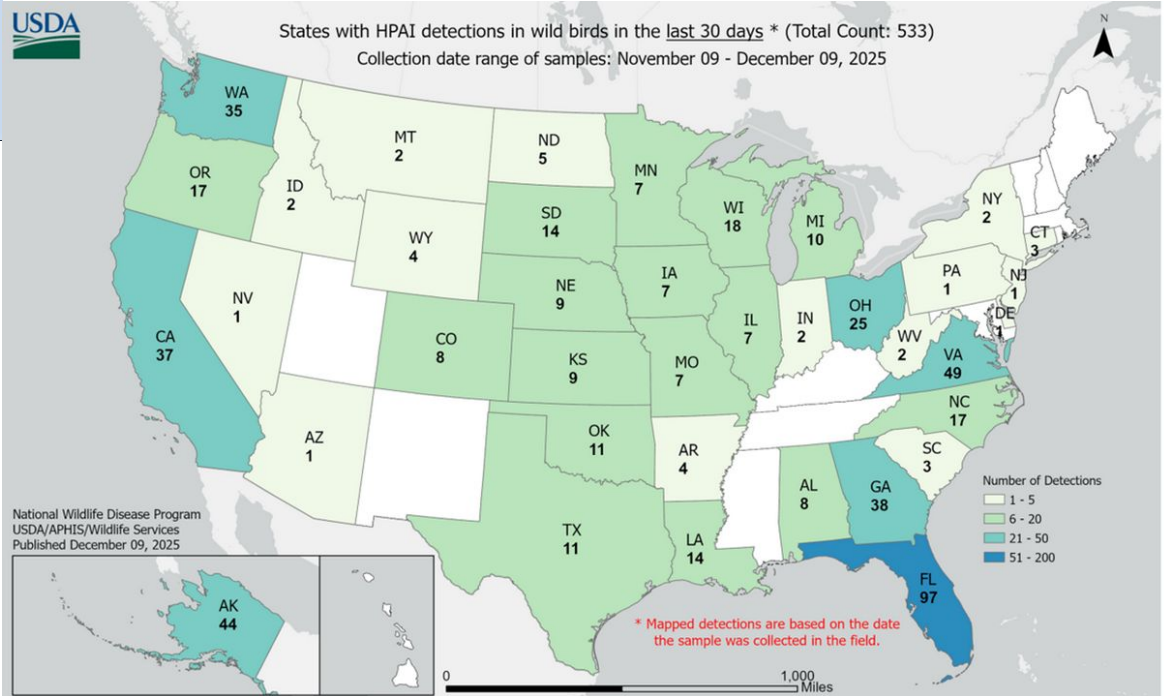
Cases	Exposure Source
41	Dairy Herds (Cattle)*
24	Poultry Farms and Culling Operations*
3	Other Animal Exposure†
3	Exposure Source Unknown‡



## North American Bird Migration Flyways



States with HPAI detections in wild birds in the last 30 days \* (Total Count: 533)  
Collection date range of samples: November 09 - December 09, 2025

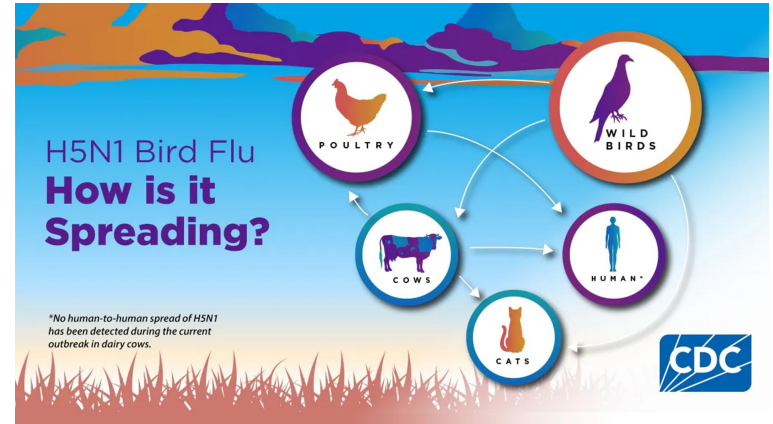


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# Importance of HPAI control and Education

- Farm Sustainability
- Animal health and welfare concerns
- Human infection and occupational risk
- Human-to-human transmission?
- Raw milk is a risk for public health
- Wildlife spread



Hopefully not the calm before the next storm



# One-Page Briefs

## Just the Facts! Farm Workers and H5N1

H5N1 is a serious health risk in birds, cows, and other animals and can also spread to humans.

### H5N1 Virus ... The Risk!

- H5N1 risk is greatest for those who work with or around infected animals (poultry, dairy cows, wildlife) or handle raw (unpasteurized) dairy products infected with the virus
- Human infection from H5N1 occurs when a high enough concentration of the virus is inhaled or gathers into your eyes, nose, or mouth.
- Be aware of your H5N1 risk by being mindful of your potential to:
  - Breathe in tiny particles containing the virus
  - Transferring the virus by touching contaminated surfaces and then touching your eyes, nose, or mouth

### H5N1 Virus ... The Symptoms!

- Symptoms are like the flu:
- Cough, stuffy or runny nose
  - Eye redness or discharge
  - Headaches, body or muscle aches
  - Fever

The H5N1 virus spreads quickly, but simple preventative measures can make a difference.

### H5N1 Virus ... Farmworkers protect yourselves!

- Wash your hands often
- Change out of clothes that might be contaminated BEFORE going home
- Use safe work practices and keep down the dust
- Only consume pasteurized dairy products
- Get your seasonal flu shot
- Report symptoms to your employer and get regular medical check-ups
- Use appropriate and effective PPE: Coveralls, Apron, Gloves, Head Covering, Eye Protection, Shoe Covers



The H5N1 virus is part of the Influenza A virus family, known for its ability to evolve rapidly. The constant evolution makes it crucial to maintain awareness, implement protective measures to safeguard livestock and human health. By doing so, we can help prevent the spread of H5N1 and reduce the chances of it evolving into new strains.

Bull, P., Hartzband, L., Horn, T., Mearns, S., & St. Onge, R. (2016). Keeping in Safe: Protecting Against H5N1 (Fact Sheet). Extension Foundation, EXCITE.

## ¡SOLO LOS HECHOS! Trabajadores Agrícolas y Gripe Aviar H5N1

El virus H5N1 es un riesgo grave para la salud de las aves, vacas y otros animales. H5N1 también puede propagarse a los humanos.

### Virus H5N1 ... ¡El Riesgo!

- El riesgo de contraer el virus H5N1 es mayor para aquellos que trabajan con o alrededor de animales infectados (aves de corral, vacas lecheras, selo domesticas) o quienes manejan productos lácteos crudos (no pasteurizados) infectados con el virus.
- La infección humana por H5N1 ocurre cuando se inhala una concentración suficientemente alta del virus o cuando el virus entra en los ojos, la nariz o la boca.
- Sea consciente de su propio riesgo de contraer H5N1 teniendo en cuenta el riesgo que usted tiene en su lugar de trabajo:

### Virus H5N1 ... ¡Los Síntomas!

- Los síntomas de infección por H5N1 son similares a los de la gripe:
- Tos, nariz tapada o congestión
- Enrojecimiento o secreción ocular
- Dolor de cabeza, corporales o musculares
- Fiebre

El virus H5N1 se propaga rápidamente, pero simples medidas preventivas pueden marcar la diferencia.

### Virus H5N1 ... ¡Trabajadores agrícolas, protéjanse!

- Lávase las manos con frecuencia
- Cámbiate de ropa que pueda estar contaminada ANTES de ir a casa
- Use prácticas de trabajo seguras y mantenga el polvo bajo control
- Consuma solo productos lácteos pasteurizados, no crudos
- Protégase la vacuna contra la gripe estacional
- Informe los síntomas a su empleador y realice chequeos médicos regulares
- Use EPP (Equipo de Protección Personal, PPE en inglés) adecuado y efectivo: Overol o ropa exclusiva para su trabajo, Detergente impermeable y/o lavable, Guantes desechables, Cubrepara para la cabeza, Protección ocular, Cubre zapatos



Debido a que el virus H5N1 pertenece a la familia de los virus de la Influenza A, puede evolucionar rápidamente. Esto hace que sea crucial utilizar medidas de protección para salvaguardar la salud del ganado y de los humanos. Esto ayuda a prevenir la propagación del H5N1 y reduce sus posibilidades de evolucionar en una nueva cepa.

Bull, P., Hartzband, L., Horn, T., Mearns, S., & St. Onge, R. (2016). Keeping in Safe: Protecting Against H5N1 (Fact Sheet). Extension Foundation, EXCITE.

## Recommendations for organizers of dairy shows and events to Reduce the risk of H5N1 virus transmission

### Before the Event

- Work with State Animal Health Officials and State Public Health Officials
- Stay up to date on federal and State requirements for animal movement
- <https://www.aphis.usda.gov/animal/health/flu/h5n1/>
- Provide the most current Federal and State requirements for animal movement to potential exhibitors prior to the event
- Develop a plan with these officials for the disposal or removal of raw milk in case that other humans or animals have access to it
- Establish a plan in case an animal develops clinical signs consistent with H5N1 virus infection
- Collect contact information for state animal health officials and local or state public health officials to ensure they can be reached if they are needed during the event
- Collect contact information from all exhibitors to be able to rapidly communicate information prior to, during, and after the event

- Develop and share the event biosecurity plan with exhibitors
- This plan should include:
  - Limiting the co-mingling of cattle from different herds when possible
  - Limit access to nose contact
  - Stagger stalling to allow space between exhibitors
  - Prohibit shared water troughs between herds
  - If facility has a milking parlor, schedule milking times and their staff and equipment between herds

- Develop a plan for the disposal or removal of raw milk should lactating cows be present
- Provide a designated disposal area for milk and prohibit the disposal of any area other products on the exhibit

- Develop an animal show sign of H5N1 virus infection
- Establish an isolation area away from other animals and the public
- Develop guidelines and PPE recommendations for those caring for sick animals
- <https://www.extension.org/health/breeding/avian-and-swine/>

- Ensure handwashing stations are present and fully stocked with supplies (soap, water, towels) near the exit of the animal exhibition area
- Develop signage to remind the public and exhibitors of proper and recommended biosecurity
- <https://www.extension.org/health/breeding/avian-and-swine/>

- References:
  - <https://www.aphis.usda.gov/animal/health/flu/h5n1/>
  - Hartzband, L., Horn, T., Mearns, S., & St. Onge, R. (2016). Recommendations for organizers of dairy shows and events to reduce the risk of H5N1 transmission (Fact Sheet). Extension Foundation, EXCITE. The information was adapted from USDA APHIS guidance (May 2014).



### During the Event

- Communicate with all exhibitors at the start of the event
- The Biosecurity plan
- The signs of H5N1 illness
- Specific actions to take should an animal become sick
- Clean and disinfect equipment frequently and remind exhibitors to do the same

- Post signs near the entry and exit of the exhibition area to remind visitors
- Food and beverages in the barn are prohibited
- Contact with animals is prohibited
- Wash their hands after leaving the animal area

- Consider closing areas of the barn during high animal traffic times (during shows and milking times) and allowing space to view these events from designated areas

### After the Event

- Develop a communication plan should an animal that was on exhibit show signs of illness within a week after the event
- Thoroughly clean and disinfect the exhibition area



- References:
  - <https://www.aphis.usda.gov/animal/health/flu/h5n1/>
  - Hartzband, L., Horn, T., Mearns, S., & St. Onge, R. (2016). Recommendations for organizers of dairy shows and events to reduce the risk of H5N1 transmission (Fact Sheet). Extension Foundation, EXCITE. The information was adapted from USDA APHIS guidance (May 2014).

- Authors:
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## Recommendations for Dairy Show and Event Exhibitors to Reduce the Risk Transmission of H5N1

### Before the Event

- What to know
- Animal movement requirements for interstate movement if you will be showing outside the state your cattle are housed in
- Currently, lactating cows require a negative test for H5N1 no more than 7 days prior to their
- Most current requirements can be found at <https://www.aphis.usda.gov/animal/health/flu/h5n1/>
- State or event specific exhibition requirements
- Signs of H5N1 in cattle
- Decreased milk production, reduced appetite, thickened, discolored milk, lethargy, fever, and/or dehydration
- Signs of H5N1 in humans
- Influence-like symptoms (e.g., fever, chills, cough, sore throat, etc.) or conjunctivitis (red eyes)

- The risks—discuss with your herd veterinarian
- APHIS strongly recommends minimizing movement of lactating cows

- Obtain a certificate of veterinary inspection
- Clean and disinfect any equipment you will be bringing with you
- <https://www.aphis.usda.gov/animal/health/flu/h5n1/>
- Use an approved disinfectant
- Wash hands frequently
- Do not share equipment and supplies between sick and healthy animals

- Isolate and observe animals after returning home for signs of illness
- 30-day isolation
- Do not share equipment, tools, or water sources with another animal
- Consider testing for H5N1
- Clean and disinfect all equipment you took to the show using approved disinfectants

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### During the Event

- Observe cattle regularly for signs of H5N1
- Do not share equipment, tools, or supplies with other exhibitors
- Keep your animals at a safe distance from other animals when possible
- Avoid nose to nose contact between animals from different premises
- If an animal becomes sick at the event
- Report sick animals to show organizers
- Follow event protocols and biosecurity plan should an animal become sick
- Follow biosecurity protocols should an animal become sick
- Interact with animals should be limited to those caring for the animal
- Those caring for the animals should limit exposure to other animals
- Use proper personal protective equipment
- Gloves, boot covers or wash boots, safety glasses or masks
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# EXCITE H5N1 Response

Providing One-Stop-Shop for science-based H5N1 knowledge and resources:

- Website and resources

<https://h5n1.extension.org/>

## H5N1 Educational Resources




**Empower your Community with H5N1 Educational Resources**

The purpose of this website is to provide Cooperative Extension professionals with resources made available from the Centers for Disease Control and Prevention (CDC) and other partners regarding H5N1 and human health.

[GO TO PAGE](#)

## H5N1 Educational Resources

### How is it spreading?




While the current public health risk is low, CDC is watching the situation carefully and working with states to monitor people with animal exposures.

[GO TO PAGE](#)

## H5N1 Educational Resources


### Cooperative Extension Resources



[GO TO PAGE](#)

## H5N1 Educational Resources









### Worker Protection



H5N1 in the Workplace. Resources for protecting yourself and your employees.

[GO TO PAGE](#)

## H5N1 Educational Resources

-  Print and Media Resources
-  Food Safety
-  Upcoming Events and Opportunities
-  Supporting Websites for General Information
-  USDA Actions and Regulations
-  On-Farm Biosecurity Recommendations and Training
-  Youth Livestock Events and Shows
-  Poultry Resources

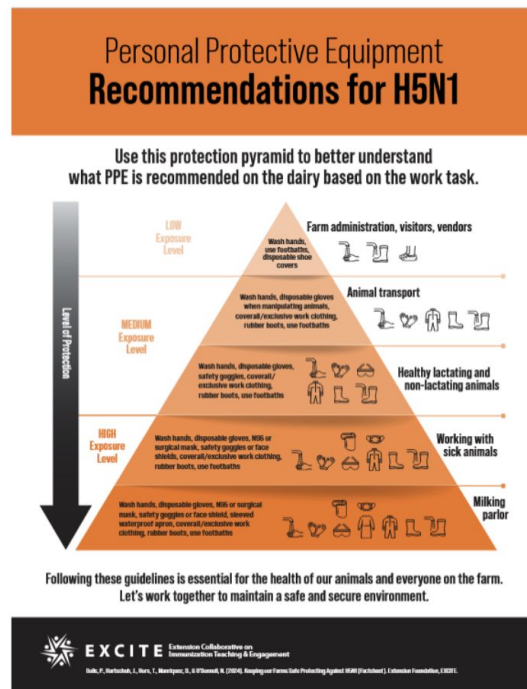
**EXTENSION FOUNDATION**

About the Extension Foundation  
The mission of the Extension Foundation is to provide a more visible, measurable, and impactful. We achieve this through our nationally funded programs made possible by member dollars and cooperative agreements with federal agencies, and through partnerships on state, regional, and national initiatives with Cooperative Extension and the Extension Committee on Organization and Policy (ECOP). We serve all Land Grant Universities, regardless of membership status.

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# Posters and Banners

50 banners distributed  
For use at producer meetings,  
fairs, trade shows



# Keeping Our Farms Safe Protecting Against H5N1



## Why It Matters

Biosecurity plans yield a healthy dairy farm. Safeguarding your herd protects your livelihood and the community that depends on you. Protecting animals, people, and the environment from diseases like H5N1 is everyone's responsibility.

### What You Need to Know About H5N1

- H5N1 causes severe illness in poultry
- H5N1 has been found in wild birds and some mammals, including cats
- H5N1 is spreading among dairy cows



## Current Spread

H5N1 poses significant risks to livestock, with ongoing multi-state outbreaks in dairy herds escalating at an

**Virus found**  
in cows' milk, lungs, muscle, and udder tissue.

**alarming rate.**

## How Does H5N1 Spread?

### Transmission Paths

- Respiratory droplets from infected animals
- Movement of infected or exposed cattle
- Contact with raw milk or contaminated equipment, clothes, and vehicles.

The virus can spread through cows' milk via:

- **Direct contact:** Exposure to infected raw milk.
- **Indirect contact:** Contamination through clothes, animals, vehicles, or equipment.

## Keeping Your Farm Safe Guardians of the Herd

Your role as a farmer is vital to protect your livestock, farm workers, and community.

The H5N1 virus spreads quickly, but simple preventative measures can make a difference.

### Protect Your Farm: Biosecurity Best Practices

#### Limit Exposure

- Quarantine new animals for 30 days.
- Isolate sick cattle immediately.
- Avoid raw milk consumption by barn cats or wild animals.

#### Control Access

- Provide clean clothing and footwear for visitors. Having plastic disposable boots available in boxes that can be reached from the window of a semi or car allows visitors easy access from their vehicle. Also, have trash cans available at all parking areas and delivery areas.
- Install footbaths with chlorine-based disinfectants at all entry points.
- Prohibit drivers and non-essential personnel from animal areas.

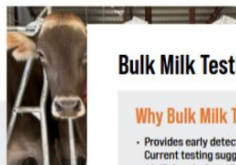
#### Monitor and Test

- Participate in bulk tank milk testing programs.
- Test animals before state fairs or exhibitions.
- Regularly assess herd health for early detection of symptoms.

Choosing to take recommended actions demonstrates value make your farm healthy. Strong farm values like leadership: self-responsibility. Protect your herd and the future of your



# Factsheet

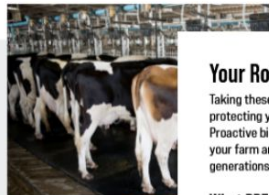


Your vigilance  
the herd but  
employees.

## Bulk Milk Testing

### Why Bulk Milk Testing Matters

- Provides early detection to minimize herd loss. Current testing suggest virus present in milk 14-16 days before clinical symptoms.
- Ensures safe animal movement between farms.
- Helps maintain the safety and sustainability of the dairy industry.



## Risk: What to

### Symptoms in Dairy

- Decreased milk p
- Sudden drops in i
- Producing thick, i
- Reduced feed or becoming tachy c
- Lethargy, dehydr

### Potential Contaminants Monitor and prevent common sources:

- Raw milk
- Viscera and udder
- Sick animals
- Feces or litter
- Contaminated su (e.g., ponds, troughs)

## National Milk Testing Strategy

On December 6, 2024, the USDA announced its **National Milk Testing Strategy (NMITS)**, introducing a new Federal Order to combat the spread of H5N1 Avian Influenza in dairy herds. These new rules introduce mandatory measures aimed at detecting and preventing H5N1 in dairy cattle.

### Key Changes Under the Federal Order: Raw Milk Testing Requirements:

- Dairy farms, transporters, transfer stations, and processors must participate in mandatory raw (unpasteurized) milk testing.
- Any positive test results will be reported to the USDA for follow-up.

## Personal Protective Equipment (PPE): Essential for Safety

Protect Yourself and Your Farm

### Farm tasks determine exposure levels

- **High Exposure:** Work in milking parlors or with sick animals.
- **Medium Exposure:** Work near infected farms.
- **Low Exposure:** Work with no direct animal contact.

### Recommended PPE for High Exposure Areas

- Wash your hands before and after contact.
- Wear disposable gloves for every task.
- Wear safety goggles and a face shield if needed.
- Use coveralls or work clothing only for the farm.
- Put on a sleeved waterproof apron.
- Use an N95 or surgical mask.
- Wear rubber boots.
- Use footbaths at entry points.

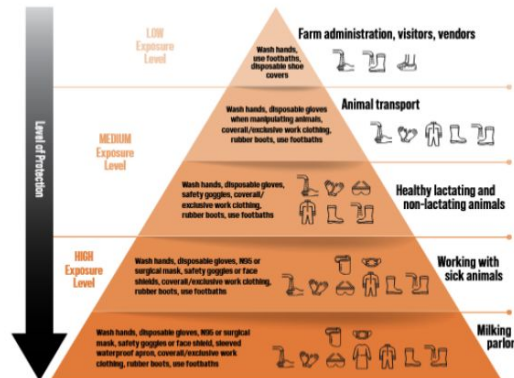


## Your Role: Farm Leadership

Taking these steps demonstrates commitment to protecting your herd, employees, and community. Proactive biosecurity ensures the sustainability of your farm and strengthens the dairy industry for generations to come.

## What PPE should be made available depending on the work tasks in the dairy?

Think of the protection pyramid:



# Social Media Posts



# H5N1 Booklets in English and Spanish for Order



Use this form to submit a booklet order!

## Events and Opportunities

### H5N1 Monthly Update Meetings

Each month EXCITE host an update session and sharing meeting for participants in H5N1 projects.

- [Register here to recieve the Zoom link and calendar invite](#)

### Past Monthly Update Recordings

- December H5N1 Update Webinar
  - [Recording](#)
  - [Webinar Slides](#)

# What's Next?

- Continued monthly EXCITE Spotlight sessions
- Ongoing creation and dissemination of timely brain-friendly materials
- Expansion of partnerships (Extension, farmers, industry, community, etc.)
- Use of evaluative data to inform curriculum and resource generation
  - Resources for backyard poultry and livestock producers
- Dissemination of H5N1 resources to Extension professionals and partners

# Contact us for more information

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thorn@clemson.edu

Jackie Wilkins  
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OR VISIT: <https://h5n1.extension.org/>

# THANK YOU!