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Extension Collaborative on
Immunization Teaching & Engagement

Keeping Our Farms Safe Protecting Against H5N1

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



LEARN.

Prevention is protection.



UNDERSTAND.

Understand how to protect yourself.



DECIDE.

Decide and protect the safe way.

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

Protecting Against H5N1

Highly pathogenic avian influenza A (H5N1) poses a serious threat to both poultry and human health. The purpose of this resource is to help Extension educators learn about prevention, understand how farmers can protect their farms and communities, and determine actions needed to stay safe

This booklet contains:

- Information about outbreaks
- A comprehensive factsheet on how to keep farms safe and protect against H5N1
- CDC resources for farm owners and employers, as well as farmworkers
- Vaccine information
- A biosecurity checklist for farm visits
- Additional H5N1 awareness and prevention resources

This resource is intended to be shared broadly in print or electronically with dairy producers and farmworkers. Extension professionals can use it in combination with awareness and risk-management training or as a “leave-behind” resource following a farm visit. Please contact us if you would like to have some print copies made available or you have questions about H5N1.

We can all do our part to ensure the safety of our herds and our communities by being aware of how H5N1 affects animals and humans and how to prevent the spread.

For more information or to order hard copies of the booklet, contact:

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Wishing you all optimal health and wellness,

Michelle Rodgers
Director, EXCITE



Acknowledgments

We would like to acknowledge the University of Arkansas System Division of Agriculture who developed the original publication from which this resource was adapted.

Non-discrimination

USDA is an equal opportunity provider, employer, and lender.

H5N1

Is Everyone's Responsibility

H5N1 is widespread in wild birds worldwide and is causing outbreaks in poultry and U.S. dairy cows with several recent human cases in U.S. dairy and poultry workers.

While the current public health risk is low, CDC is watching the situation carefully and working with states to monitor people with animal exposures. CDC is using its flu surveillance systems to monitor for H5N1 activity in people.



Poultry

- 123,689,426 poultry affected as of December 16, 2024.
- 49 states with outbreaks in poultry.



Wild Birds & Mammals

Wild birds can be infected with H5N1 and show no signs of illness. They can carry the disease to new areas when migrating, potentially exposing domestic poultry to the virus. Additionally, H5N1 has been detected in some mammals.

- 10,852 wild birds detected as of December 17, 2024.



Dairy Cows

- 1075 dairy herds affected as of July 15, 2025.
- 17 states with outbreaks in dairy cows.



Humans

Since March 24, 2024

- 500+ people tested in the US after exposure to infected animals.
- 58 Human cases detected through targeted H5N1 surveillance.



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

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 is spreading among dairy cows (currently in 15 U.S. states)
- H5N1 has been found in wild birds and some mammals, including cats



How Does It Affect Cows?

- coughing, sneezing, runny nose and eyes
- loss of appetite
- sudden drop in milk production

NOTE: Milk from infected cows may appear thick and yellow like colostrum.

Current Spread

689 dairy herds confirmed infected as of early December 2024.

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

35 At least 35 U.S. farm workers infected, with mild symptoms reported.

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' RAW MILK via

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

High-Risk Areas

- Milking parlors.
- Sick animal zones.
- Contaminated water sources and surfaces.

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.



Your vigilance protects not only the herd but also your family, employees, and community.

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.

Risk: What to Watch For

Symptoms in Dairy Cattle

- Decreased milk production across the herd.
- Sudden drops in individual cows' milk, sometimes producing thick, colostrum-like milk.
- Reduced feed consumption and abnormal feces becoming tachy or diarrhea.
- Lethargy, dehydration, and fever.

Potential Contamination Sources

Monitor and prevent contact with these common sources:

- Raw milk
- Viscera and udders from lactating dairy cattle
- Sick animals
- Feces or litter
- Contaminated surfaces or water sources (e.g., ponds, troughs, buckets).

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



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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.



National Milk Testing Strategy

On December 6, 2024, the USDA announced its [National Milk Testing Strategy \(NMTS\)](#), 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

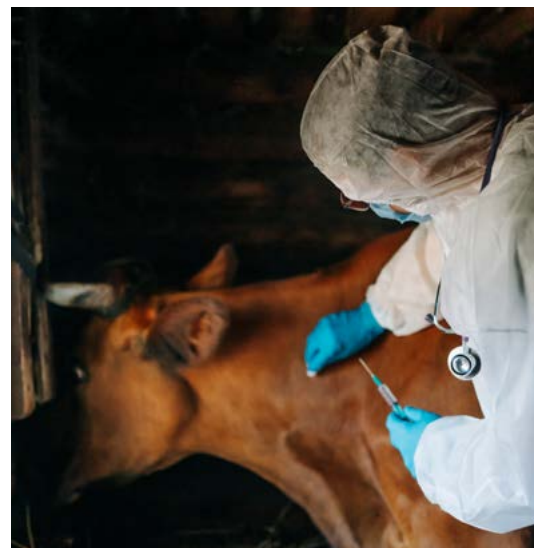
Protect Yourself and Your Farm

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.



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Your Role: Farm Leadership

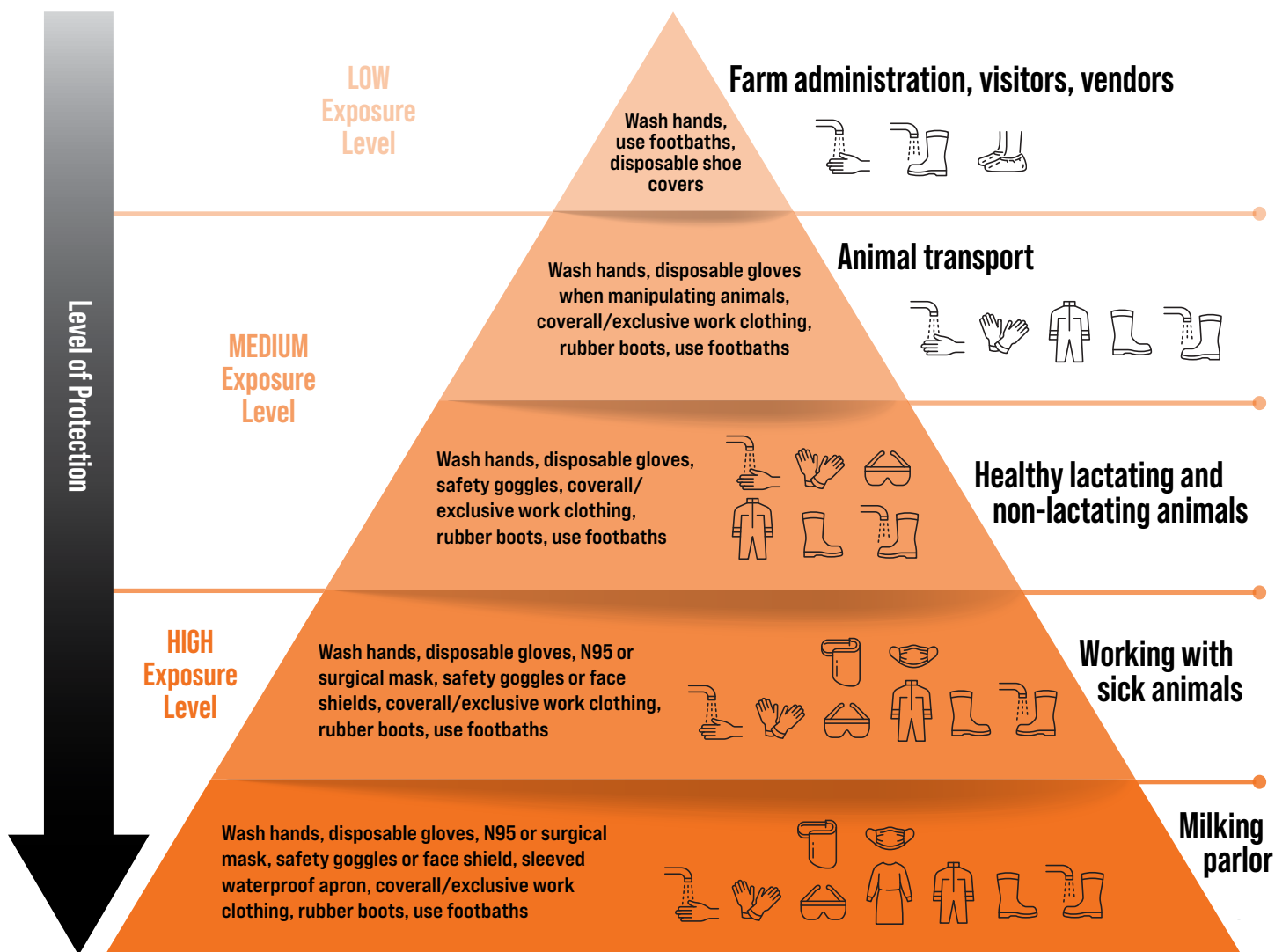
Taking these steps demonstrates commitment to protecting your herd, employees, and community. Proactive biosecurity ensures the sustainability of your farm and strengthens the dairy industry for generations to come.

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

Think of the protection pyramid:

To ensure safety at all exposure levels, encourage workers to follow these basic hygiene measures

- Do not take work clothing home or to other dairy, cattle, or poultry operations.
- Wash hands regularly.
- Use footbaths or disposable shoe covers when moving to different locations within the dairy.
- Allow boots to dry after using footbaths.
- Report any signs of illness.

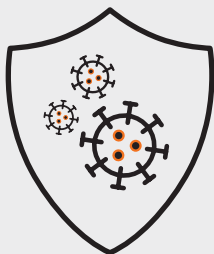


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PPE Protection Levels

Farm PPE can protect workers from many zoonotic diseases, including:

- H5N1
- E. Coli
- Salmonella
- Campylobacter
- Cryptosporidium parvum



PPE items have different but effective ways to protect human and animal health:

- Regular **hand washing** is one of the most effective hygiene measures to protect health. It can reduce the risk of viral infections in dairy farm workers¹² if done properly.
- Cracks and grooves on hand harbor bacteria and easily spread every time someone touches their face. **Hand washing and wearing disposable gloves** can help protect dairy workers from this spread. **DO NOT re-use gloves.**
- The airways and eye mucosa are the main route of infection. Bacteria and viruses can be aerosolized from milk, urine, manure, or bodily fluids, the protection of the mouth, nose, and eye areas is critical. **Face masks** such as N95 respirators and surgical masks have similar effectiveness in reducing the infection of Influenza viruses¹². Both N95 and surgical masks are suitable for high-exposure tasks in dairy farms.
- **Goggles, safety glasses, or face shields** can decrease this risk and protect the eyes from other particles entering them such as hairs on the tail.
- **Wearing a face mask along with gloves and hand washing** reduced the risk of farm workers being infected by Cryptosporidiosis to 1.29% while no PPE has an infection risk of 29.08%. Wearing gloves and washing hands had an infection risk of 3.88%¹³.
- When clothes get splashed by milk, manure, or urine, they can harbor bacteria that can be transferred to the face while taking these clothes off. **Wearing aprons or disposable coveralls** can allow these fluids to easily be washed off and protect workers from disease transfer while helping to keep them dry.
- Leather and cloth shoes can harbor many pathogens that spread everywhere they go, including onto workers' hands when the shoes are removed. **Rubber boots** can be disinfected easily and protect workers from spreading disease.
- **Laundry facilities at the farm** assist with biosecurity by protecting workers' families from taking diseases home with them on their clothes and from bringing diseases onto the farm.
- **Footbaths** reduce the risk of circulating avian influenza virus¹⁴. Chlorine-based solutions in footbaths can destroy the H5N1 virus¹¹.



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Keeping our Farms Safe Protecting Against H5N1 [Factsheet]. Extension Foundation, EXCITE.

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H5 Bird Flu Resources for Farm Owners and Employers

H5 bird flu is widespread in wild birds worldwide and is causing outbreaks in U.S. poultry and dairy cows. Recently, there have been sporadic H5 infections in U.S. dairy and poultry workers.

Employers should take steps to reduce workers' risk of infection with novel influenza A viruses from sick animals or contaminated environments. If a worker has been exposed to animals with H5 bird flu infection help them seek care and get tested if they have symptoms (even mild). Seeking care means getting access to treatment that might reduce the possibility of spreading the virus and can help CDC learn more about how the virus spreads. Talk to your state health department about testing.

Guidance for Farm Owners



Interim Guidance for Employers to Reduce the Risk of H5 Bird Flu for People Working with or Exposed to Animals: Recommendations for engineering controls, administrative controls, and personal protective equipment (PPE) that can be used to reduce the risk of infection. ([link](#))



Interim Recommendations for Prevention, Monitoring, and Public Health Investigations of H5 Bird Flu: CDC's recommendations for preventing exposures to H5 Bird Flu, infection prevention, and information on what to do if exposed. ([link](#))



Hazard Assessment Worksheet for Dairy Facilities ([link](#))

Flyers to Post for Workers



Flyer: Farm Workers Exposed to H5 Bird Flu ([link](#))



Flyer: Protect Yourself from H5 Bird Flu When Working with Farm Animals ([link](#))



Flyer: What To Do If You Feel Sick ([link](#))

Videos and Graphics



H5 Bird Flu Informational Videos: This series answers commonly asked questions about the current H5N1 bird flu situation in the U.S. and also gives tips for preventing infections. ([link](#))



H5 Bird Flu Social Media Toolkit: Find social media graphics that clearly explain spread, personal protective equipment, and more. All graphics can be easily shared on social media or printed for in-person groups. ([link](#))



Optional Milking Parlors PPE Modifications

PPE On ([link](#))



PPE Off ([link](#))



H5 Bird Flu Resources for Farm Workers

H5 bird flu is widespread in wild birds worldwide and is causing outbreaks in U.S. poultry and dairy cows. Recently, there have been sporadic H5 infections in U.S. dairy and poultry workers.

You can take steps to reduce your risk of getting sick. If you have been exposed to animals with H5 bird flu infection, seek care and get tested if you have symptoms (even mild). Seeking care means getting access to treatment that might reduce the possibility of spreading the virus and can help CDC learn more about how the virus spreads. Learn more about how you can protect yourself and others:

Information for Farm Workers



Information for Workers Exposed to H5 Bird Flu: Learn more about how the virus spreads, symptoms to look out for, and how to protect yourself. ([link](#))



Information for People Exposed to Birds or Other Animals Infected with H5 Bird Flu: Information and instructions for people who were recently around poultry, wild birds, or other animals, found to be infected with avian influenza viruses ("bird flu" viruses). ([link](#))



Self-Observation for Illness for Responders to Poultry Outbreaks of H5 Bird Flu ([link](#))

Quick Reference Flyers



Flyer: Protect Yourself from H5 Bird Flu When Working with Farm Animals ([link](#))



Flyer: Farm Workers Exposed to H5 Bird Flu ([link](#))



What To Do If You Feel Sick ([link](#))

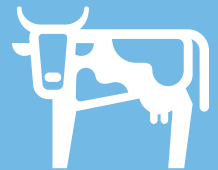
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H5N1 & Vaccination

Seasonal Flu Vaccines Don't Protect Against H5N1

Getting a seasonal flu shot will not protect you from H5N1. However, if you work around birds or animals that could be infected, getting your seasonal flu shot is still important. Ideally, you should get the shot at least 2 weeks before your potential exposure.



The seasonal flu shot helps by:

- Reducing your chances of getting the seasonal flu.
- Lowering the rare risk of being infected by both seasonal flu and bird flu at the same time.

Why is this important? In very rare cases, having both viruses at the same time could cause them to mix, creating a new type of flu virus that could be dangerous for public health.

Vaccines for H5N1 are Being Developed

Seasonal flu shots don't protect against H5N1. However, scientists are preparing for the possibility of need a H5N1 vaccine. Scientists have already made prototype vaccines (called candidate vaccine viruses, or CVVs). These vaccines closely match the bird flu viruses currently found in birds, people, and other animals. If needed, these prototypes can be used to quickly produce vaccines for people.

To find vaccines near you, visit:
<https://www.vaccines.gov/en/>

Thank you to our partners for making this possible:



National Institute of Food and Agriculture
U.S. DEPARTMENT OF AGRICULTURE

Biosecurity Tips *when Visiting Livestock Farms*

When planning farm visits, it is best to limit them to one per day. If you have attended a conference with international attendees, you should refrain from conducting farm visits for 5 days. When planning to visit more than one farm in a day, schedule your visits to allow for a shower and a change of clothes between farms, even if they feature different animal species since some diseases can be zoonotic. When planning visits, start with the youngest, most susceptible animals first and finish with diseased animals. If visiting feed storage areas this should be done before animal contact. If making a farm records-only visit with no animal contact, make these your first visit for the day. If this is your first visit to a farm, ensure that your clothes and vehicle clearly display your organizational identity.



Before leaving your home or office

- **Call the producer ahead of time to schedule the visit and collect background information**
 - Are there any known sick animals on the farm beyond the normal illnesses? Does the farm have any biosecurity requirements ie: no same species contact for 24 hours before the farm visit
 - Ask about parking areas at the farm and initial meeting location
 - Ask if you can take pictures to document the farm visit and needs (remember, for some diseases, electronic devices can be a fomite)
- **Have the proper supplies.**

<input type="checkbox"/> Coveralls or other protective clothing	<input type="checkbox"/> Boot brush
<input type="checkbox"/> Trash bags (one for disposables and one for laundry per farm)	<input type="checkbox"/> Paper towels
<input type="checkbox"/> Soap	<input type="checkbox"/> Disposable gloves
<input type="checkbox"/> Water (good to carry a jug for wash water only)	<input type="checkbox"/> Hand brush
<input type="checkbox"/> Rubber or plastic disposable boots to wear around the farm	<input type="checkbox"/> Hand wipes
<input type="checkbox"/> Short boots for walking from the farm office to the vehicle	<input type="checkbox"/> If working with sick animals, consider wearing a mask and safety glasses
<input type="checkbox"/> Bucket or large pan	<input type="checkbox"/> Safety goggles or at least safety glasses
<input type="checkbox"/> Approved Disinfectants, Chlorine products inactivate H5N1	<i>D3 droplet rated or higher</i>
- **Identify a Place to wash coveralls outside your home**
- **Designate one part of your vehicle clean (back seat) and one part dirty (trunk).**
- **Consider using plastic totes for storing clean (before use) and dirty (after use) stuff.**
- **Plan your visit by seeing young and healthy animals first, then mature or sick animals last.**

Arriving at the farm

- Make sure your vehicle is clean before arriving at a farm
- Park in a designated area by the farm *If that area is not clean, park in a clean area.*
- Put on boots right after leaving your vehicle
- Wash and dry rubber boots before entering farm facilities
- Wash boots in designated area
- Wash boot between each pen of animals, especially when going between age groups
- All material carried on the farm should be disinfected first
- Computers or tablets should be in a cleanable case
Only take the electronic devices you need

After the farm visit

- If you crossed farm traffic wash your vehicle
- If disposables are not left at the farm dispose of them in a dumpster, not your home or in the office
- Put coveralls in a plastic bag or secure laundry bag, be sure to wash both
- Wash/disinfect all equipment you took on farm before returning it to your office for storage
- Choose a disinfectant that works against a broad spectrum (Viruses, bacteria, bacterial spores, protozoa, and fungi)
Remember, disinfectants work best after all organic matter is removed



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Additional H5N1 Resources

Use the QR Code or [link](https://h5n1.extension.org/) to visit our website for materials, factsheets, and resources in English and Spanish for farmers and farmworker-serving organizations.

