

Dairy Cattle: Biosecurity Recommendations for HPAI and More

V1 - APRIL 5, 2024

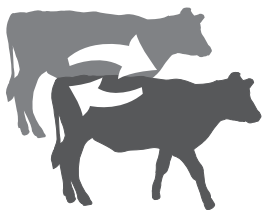
It is suspected that wild bird exposure led to Highly Pathogenic Avian Influenza (HPAI) A H5N1 infected U.S. dairy cattle in Texas and Kansas. Additional cases have been found in other states after dairy cattle were moved from a state that had reported HPAI in cattle. The recommendations below are based on what is known about the HPAI virus and best management practices for cattle and caretaker health. The recommendations are subject to change as more information is gathered.

Dairies are encouraged to appoint a **Biosecurity Manager**, someone familiar with the operation to:

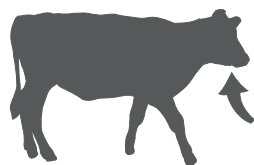
- Monitor the changing situation,
- Work closely with their herd veterinarian to set up an operation-specific biosecurity plan to protect cattle health, and
- Ensure biosecurity steps are put in place.

Spread of Virus

The exact spread of HPAI to cattle is unknown at this time. It may be through:



Direct contact



Oral consumption



Inhalation (breathing in the virus)



Fomites (contaminated inanimate objects)

Waterfowl and other birds can shed HPAI virus in their oral, nasal and fecal secretions.

Infected cattle shed HPAI in milk based on initial samples. Other secretions (saliva, respiratory, feces) are unknown but plausible. These may serve as a source of virus for other cattle. Raw milk seems to be the most likely secretion for disease spread to cattle at this time.

Small mammals (cats, raccoons, skunks) are susceptible to the wild bird strain of H5N1. Often referred to as a dead-end host, their role in transmission to cattle is unknown.

Initial testing of the cattle samples did not find virus changes that would make this strain of H5N1 more transmissible to humans. The USDA and CDC state that the current risk to the public remains low. Precautions are warranted for people with direct contact with infected animals (cattle, birds, small mammals) and raw milk to lower the risk of infection.

Focus Areas

Biosecurity efforts to protect cattle and people should focus on:

Protecting the Dairy from Exposure

- Minimize access of wild birds to cattle and their environment.
- Manage movements of cattle and their transport.
- Limit livestock contact to essential people.

Preventing Cattle/Calf Exposure

- Avoid feeding raw colostrum or milk to calves/cattle and other mammals.
- Follow good milking practices.
- Separate new/returning animals and isolate sick animals.
- Sanitize milking equipment after use with new/returning and after sick cattle.

Precautions for Animal Caretakers

- Avoid consuming unpasteurized (raw) milk and cheeses from suspect or confirmed HPAI cattle.
- Wear protective gear covering eyes, nose, mouth, hands when contacting infected animals, carcasses, milk, or manure.

Protecting the Dairy from Exposure

Animals

- Delay or stop incoming or returning animals from herds with unknown or suspect health status.
- If cattle must be moved, USDA recommends pre-movement testing of milk samples from lactating cows and nasal swabs for non-lactating cattle. Work with your veterinarian to collect and submit samples to approved labs.
- Separate (quarantine) all new or returning animals for a minimum of 21 days. The exact incubation period for H5N1 in cattle has not yet been defined; work with your veterinarian on timing.
 - Monitor health status at least daily.
 - Avoid continual introductions. Keep this group “closed” until they are ready to join the main herd.
 - Work with your veterinarian to determine testing, vaccination for endemic diseases and other health needs.

- Dedicate caretakers and equipment to these animals or work with them last.
- Clothing, footwear, and equipment worn/used around these animals should not be worn/used around other animals until cleaned and disinfected. Use an [EPA-registered disinfectant](#) effective against avian influenza.
- Milk this group after the resident herd. Follow milk system sanitation steps before milking other groups of animals.

Vehicles

- Limit the use of trailers to transporting your own cattle, if possible.
- Clean and use an [EPA-registered disinfectant](#) effective against avian influenza to disinfect trailer interiors that were used to haul cattle from other operations with unknown health status.

Visitors

- Delay or stop non-essential visitors.
- Limit cattle contact to those essential for the health and continued operation of the dairy.
 - Require or provide clean clothing and footwear to those entering.
 - Encourage use of hand-washing stations and provide gloves.
 - Require disinfection of handling, treatment, milk sampling/testing, breeding and hoof trimming equipment.
- Milk haulers should not contact farm personnel, animal housing, animals or milk products to be fed to calves. Raw milk seems to be the most likely sample for disease transmission to cattle at this time.

Wildlife Management

- Report findings of odd behaviors or increased numbers of dead wild birds, cats, skunks or raccoons to animal health officials.
- Disrupt habitats like shelter, food, and water sources that may attract birds and small mammals (cats, skunks, raccoons) which can get HPAI H5N1. Methods must follow state and federal regulations. Complete elimination is difficult. Contact the U.S. Fish and Wildlife Service office, USDA Wildlife Services office, state agriculture or natural resources

- Non-lethal methods like harassment, hazing, and removing empty nests are options for bird control. [Click here](#) for resources from USDA for wild bird management.
- Install netting or screens on curtain-sided buildings to help limit bird entry. Consider using decoys or scare devices in common roosting areas; move/change as birds acclimate to their presence. Consider using perch deterrents like spikes on rafters.
- Do not feed wild birds. Cover compost piles of carcasses whenever possible to prevent carnivores and wild bird scavengers.
- Never use untreated surface water as a source for drinking, to wet down dry lots/paddocks, in barn misters, or to clean equipment that contacts cattle. Fence off ponds/non-draining areas. Consult a wildlife or wetlands professional about managing ponds and drainage areas on farm.
- Provide clean water and waterers to cattle/calves.
 - Clean and disinfect waterers daily as supplies and resources allow. Remove bird feces and sediment as they can harbor bacteria and viruses.
 - Below are the steps to properly clean water troughs. If cleaning in areas with suspect or known infected cattle, additional precautions for people are recommended. See below.
 1. Shut off the water to the trough.
 2. Wear gloves suitable for the task.
 3. Use a dedicated brush to loosen any bird feces and sediment along top edges, sides, and bottom of trough.
 4. Remove the drain plug and scoop/push the sediment and water out or tip waterer to dump out.
 5. Flush with water to remove the remaining sediment.
 6. With the trough empty, scrub the top edges/sides/bottom to remove buildup.
 7. Flush with water to remove remaining organic matter.
 8. Bleach (sodium hypochlorite) can be used to disinfect the trough. Concentrations vary. Follow label directions for safety in mixing, how to dilute it, and recommended contact time.
 9. Drain the solution and refill with water.
 10. Rinse and disinfect brush once all waterers are clean.
 11. Remove gloves and wash hands with soap and water.

Preventing Cattle/Calf Exposure

Raw Colostrum/Milk

- Follow good milking practices with special attention to mammary health.
- Sanitize milking equipment after use with new/returning animals and after sick cattle.
- Feed only heat-treated colostrum and pasteurized milk and milk products to calves.
 - This includes beef calves that may get raw colostrum/milk from dairies.
 - The transmissibility of this H5N1 strain to other species (cats, pigs, and other mammals) via raw milk is unknown.
- The effect of acidification on milk to inactivate H5N1 is unknown.
- There is a potential risk of feeding unpasteurized dairy products and milk components to adult cattle. Studies are needed to determine H5N1 transmissibility risk.

Fomites

- Do not walk or drive through areas where bird feces may be present before entering livestock areas. If this is not possible, use [EPA-registered disinfectants](#) on contact surfaces (footwear, tires, etc.) before entry.

Managing Sick Animals

- Move animals with clinical signs to a dedicated hospital or sick pen. The area should not share air space, panels/fence lines, feeding or watering space with other animals. Seek veterinary input on testing and criteria for cattle recovery and return to herd.
- Dedicate caretakers and equipment to sick animals or work with them last.
- Follow the precautions listed below.

- Clothing, footwear, and equipment worn/used around sick animals should not be worn/used around other animals until cleaned and disinfected.
- Milk this group last. Follow milk system sanitation steps before milking other groups of animals.
- Dispose of raw milk in a manner that meets local, state, and federal regulations.
 - Do not allow raw milk consumption by humans or animals.
 - Do not dispose of it in areas where wild birds or mammals may contact it.

- How to properly put on, use, take off, dispose of, and maintain PPE; and
- PPE limitations.

Persons working with or around cattle, even if not in close contact, should avoid eating, drinking, smoking, chewing gum and other such activities in potentially contaminated areas. They should also avoid rubbing or touching their eyes and should perform thorough handwashing regularly.

People exposed to HPAI-infected cattle should be monitored for signs and symptoms of acute respiratory illness beginning after their first exposure and for 10 days after their last exposure. Signs may include eye redness, cough, sore throat, fatigue, aches, shortness of breath, even pneumonia. If seen, seek medical evaluation by a clinician or public health department. [Click here](#) for more information from the CDC.

Precautions for Animal Caretakers

Initial testing of the cattle samples did not find virus changes that would make this strain of H5N1 more transmissible to humans. This indicates that the current risk to the public remains low. Precautions for people with direct contact with infected animals (cattle, birds, small mammals) and raw milk are warranted to lower the risk of infection. Eye, nose and mouth protection are important.

CDC, USDA, and FDA remind animal caretakers and consumers not to prepare or eat uncooked or undercooked food or related uncooked food products, such as unpasteurized (raw) milk or raw cheeses, from animals with suspected or confirmed HPAI cases.

When working with infected or potentially infected animals, animal caretakers should wear personal protective equipment (PPE) such as an N95 filtering facepiece respirator, eye protection and gloves, and perform thorough hand washing after contact with infected animals, carcasses, milk or manure.

The CDC recommends animal caretakers receive training on and demonstrate an understanding of:

- When to use PPE: When in direct or close contact (within about six feet) with sick or dead animals, as well as manure and milk from confirmed or suspected HPAI cases.
- What PPE is necessary: PPE includes a properly fitted unvented or indirectly vented safety goggles, disposable gloves, boots or boot covers, a NIOSH-Approved particulate respirator, disposable fluid-resistant coveralls, and disposable head cover or hair cover.

Acknowledgements

This resource is the result of an American Association of Bovine Practitioners Working Group consisting of veterinarians working with dairy clients with clinical cases, diagnosticians, academicians, industry representatives, preventive medicine specialists, epidemiologists, biosecurity subject matter experts, the National Milk Producers Federation, National Cattlemen's Beef Association and the American Veterinary Medical Association.

WWW.NMPF.ORG/HPAI FOR A FULL LIST OF AVAILABLE RESOURCES AND UP-TO-DATE INFORMATION.