HPAI and Livestock: Information for Animal Welfare-Regulated Facilities

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In March 2024, USDA confirmed the detection of highly pathogenic avian influenza (HPAI) in dairy cattle. Although the spread of HPAI in cattle has only been observed among lactating dairy cows, several other mammal species have been affected by this virus. All mammals are potentially at risk. Below are answers to questions frequently asked by facilities regulated under the Animal Welfare Act that have livestock and other susceptible species in their care.

Frequently Asked Questions

Expand All

Can the highly pathogenic avian influenza (HPAI) H5N1 virus spread from domestic cattle to exotic/wild cattle such as bison and other bovine species?

To date, the spread of HPAI in domestic cattle has only been observed among lactating dairy cows within the same herd and between dairies associated with

certain movements. The H5N1 virus has not yet been detected in other types of domestic cattle or exotic bovines.

Although we are still investigating how this virus spreads and its pathogenicity (the severity of disease it causes) in cattle, we know that the virus is shed in milk at high concentrations. There is also data that suggests influenza A viruses can infect mammary tissue. Significant concentrations of virus have not been found in respiratory related samples, which indicates that respiratory transmission is not a primary means of virus spread.

While there is limited data regarding infection in bovine species broadly, a number of other mammal species have been affected by H5N1. All mammals are potentially at risk. Practicing effective biosecurity is essential to control virus spread. Your biosecurity plan should include measures to prevent contact between your animals and waterfowl or other susceptible species as much as possible. View resources to help producers improve biosecurity.

Do infected cows pose a risk to poultry, swine, or other animals?

USDA has documented the spread of H5N1 from infected cows to other cows, poultry, cats, and non-domestic bird species. We have also detected the virus in goats and alpaca housed on farms with infected poultry.

Research into how the virus spreads between species is ongoing. We know that the virus is shed in milk at high concentrations. There is growing evidence that the virus can be transmitted to some animals (such as cats) when they drink raw, unpasteurized milk from an infected cow. Equipment, vehicles, and animals that have come in contact with milk from infected cows can also spread the virus throughout a premises or to offsite locations.

Information on milk safety, including recommendations for disposing of milk from affected cows, is available online. This guidance is subject to change as the situation evolves. We recommend that you check the website frequently for updates.

Is it safe to feed milk to animals in my care?

Milk from infected cows contains large amounts of virus. Young calves are especially susceptible to disease from pathogens that are transmitted through raw milk. The Food and Drug Administration (FDA) has confirmed through extensive retail milk testing that pasteurization kills the H5N1 virus. They recommend that all milk intended to be fed to calves and other animals (such as cats) should be pasteurized or heat-treated at times and temperatures like those commonly found in commercial milk pasteurization processing. This should extend to all mammals fed milk, including non-domestic bovine and feline species. More information about milk safety, including frequently asked questions, is available on the FDA website.

Has USDA tested muscle tissues from infected cows? What tissues are safe for animal consumption?

On May 30, 2024, USDA's Food Safety and Inspection Service (FSIS) announced the results of its beef muscle sampling of cull dairy cows condemned at select FSIS-inspected slaughter facilities. For the study, FSIS collected 109 muscle samples from cull dairy cattle that were condemned for systemic diseases unrelated to H5N1. **No meat from these dairy cattle entered the food supply.** USDA's Animal and Plant Health Inspection Service (APHIS) analyzed the samples using polymerase chain reaction (PCR) to determine the presence of viral particles. No viral particles were detected in 108 out of 109 muscle samples. Viral particles were detected in tissue samples, including diaphragm muscle, from 1 cow.

FSIS and APHIS conducted a traceback, including notifying the producer to gather more information. FSIS personnel identified signs of illness in the positive animal during post-mortem inspection and prevented the animal from entering the food supply—as is standard for the food inspection process. These actions provide further confidence that the food safety system we have in place is working.

On September 16, 2024, FSIS added H5N1 influenza A monitoring in dairy cows at slaughter to its already robust national surveillance programs for pathogens and chemical contaminants. Specifically, FSIS will collect muscle samples from dairy cow carcasses already collected for the National Residue Program (NRP). FSIS laboratory personnel will test the samples for H5N1 using PCR testing. Carcasses sampled

under the NRP will be held by establishments pending the results of residue testing. This process will not add holding time for carcasses beyond current residue testing protocols. In the event of a positive H5N1 finding, USDA will work with industry to ensure the carcass does not enter the food supply.

Muscle and tissue organs cleared by FSIS for human consumption should be safe to feed to carnivores and raptors at regulated facilities. Any tissue not cleared by FSIS should be cooked to a safe internal temperature before feeding animals.

Do we need to close our petting zoo to the public?

The Centers for Disease Control and Prevention (CDC) provide public health guidelines for interacting with farm animals, including at petting zoos. More resources for protecting public health are available on CDC's website.

To protect your animals, we recommend that you implement enhanced biosecurity measures. Watch our video "Understanding and Reducing the Risk of H5N1 in Petting Zoos" to learn more. Petting zoo operators with lactating dairy cattle exhibits should put in place additional measures. The National Association of State Public Health Veterinarians also provides information on measures to prevent disease associated with animals in public settings.

What signs should we look for in susceptible species?

Regulated facilities should observe animals daily and communicate regularly with their Attending Veterinarian about any sick animals. You should look for the following signs in livestock:

- Sudden drop in milk production
- Milk that is thickened or colostrum-like
- Animals that develop fever, have clear nasal discharge, go off feed, or otherwise do poorly

View the H5N1 case definition for livestock for more disease information and clinical signs.

APHIS will periodically revise the case definition as we learn more about this disease in livestock and what signs may be present earlier in the disease process. Check the APHIS website often for information about any new signs of H5N1 infection in livestock to recognize affected animals as early as possible.

What biosecurity practices are recommended if I have domestic cattle? What if I have both domestic and exotic cattle?

We recommend that you implement enhanced biosecurity practices for all facilities with livestock, both domestic and exotic, due to the evolving nature of the disease. Additional biosecurity resources are available at the links below:

- Center for Food Security and Public Health (CFSPH)
- Cleaning and Disinfection Procedures | Animal Care Aids | APHIS
- Secure Zoo | Zoo and Aquarium All Hazards Partnership | ZAHP.org

Are there updated guidelines regarding shared pasture or water sources between susceptible species?

When feasible, all domestic livestock, exotic bovines, poultry, and exotic birds should be kept separate, including pasture and water sources. Measures to prevent contact with wild waterfowl and their water sources should be implemented when possible. View comprehensive requirements and recommendations for livestock.

What should I do to protect myself and my staff against HPAI infection?

CDC provides guidance for reducing risk for people working with or exposed to animals. You should also view USDA's minimum recommendations for appropriate personal protective equipment to wear and biosecurity procedures to follow when visiting an H5N1-affected herd.

If I suspect H5N1 infection, who should I report it to?

If you observe signs of H5N1 infection, contact your Attending Veterinarian right away to communicate your concerns. You may also contact your State Animal Health Official or APHIS Area Veterinarian in Charge. They will work with you and your veterinarian to determine next steps, including possible testing.

Should I alert my Animal Care Inspector if animals in my care test positive for H5N1? What will inspections look like for quarantined or isolated animals?

Contacting your Animal Care Inspector is not required, but it is strongly encouraged. It's important that inspectors are aware of the disease status of premises they inspect so they may select the most appropriate personal protective equipment to use during an inspection. Informing your inspector also alerts them to employ enhanced biosecurity measures to ensure the virus is not inadvertently carried off your premises and to another location.

The State Animal Health Official maintains premises quarantine authority, which may look different from State to State for H5N1 infections in livestock. If any of your animals test positive for H5N1, you and your Attending Veterinarian will work with the State Animal Health Official to determine whether a quarantine or other movement control is necessary and what that will look like.

How are animals tested for H5N1?

If you suspect H5N1 infection in your animals, work with your Attending Veterinarian to report cases of sick livestock or other animals to your State Animal Health Official and APHIS Area Veterinarian in Charge. They will advise the Attending Veterinarian whether to submit samples to a National Animal Health Laboratory Network lab for initial testing. Samples with non-negative test results will be submitted to the National Veterinary Service Laboratories for confirmatory testing. For lactating bovine species, milk samples from affected animals are preferred. Samples such as nasopharyngeal swabs may also be acceptable, particularly for non-lactating animals. Testing is also encouraged on sick or deceased wild birds and mammals, as well as sick or deceased cats or other companion animals from premises with livestock showing signs consistent with H5N1 virus. Veterinarians can view detailed sampling procedures on the APHIS website.

Does USDA cover H5N1 testing fees?

USDA has programs in place to reimburse the cost of testing in domestic cattle under a variety of circumstances, including:

- Cattle with clinical signs of H5N1
- Cattle exposed or linked to other animals with suspect or confirmed H5N1
- People interested in the disease status of their asymptomatic animals
- Pre-movement testing of lactating and non-lactating cattle

Although these programs were developed for domestic cattle producers, you may be eligible for reimbursement if you have exotic bovine species in your care that are exhibiting clinical signs consistent with the H5N1 virus. Work with your Attending Veterinarian and APHIS Area Veterinarian in Charge to determine your eligibility.

Should we restrict the movement of animals between licensed or registered facilities?

In April 2024, APHIS issued a Federal Order outlining pre-movement testing and laboratory reporting requirements for HPAI H5N1 in livestock. Currently, the testing

requirements apply only to lactating domestic dairy cattle moving interstate.

APHIS strongly recommends minimizing the movement of all domestic cattle and other bovine species as much as possible. You should also evaluate your risks and factor them into your movement decisions.

- Any animals on your premises with signs consistent with H5N1 infection should not be moved off the premises.
- All animals moving on or off a premises should be isolated for 30 days to prevent the spread of disease.
- If you must move a bovine species, extreme diligence should be observed to ensure only healthy animals are moving. Pre-movement testing for all bovines is strongly recommended.

Learn more about the Federal Order, including requirements and recommended best practices.

How do I find entry requirements for a given State or location?

Entry requirements for live animals are determined by the destination State. Contact your State Animal Health Official for the most up-to-date entry requirements for your species. You also need to work with your Attending Veterinarian to ensure you meet Federal requirements for moving animals interstate.

Where can I find information about the number of HPAI cases in livestock in a particular State?

You can find the latest information on national detections of H5N1 in domestic and wild species on the APHIS website.

Does USDA have any guidelines for auctions and traveling exhibits?

You should consult with your Attending Veterinarian to discuss the risks associated with moving animals for traveling exhibits (including petting zoos) or auctions and factor those risks into your movement decisions. States maintain their own regulations for these events and may or may not have additional restrictions in place to help control the spread of H5N1 through those channels. You will need to check with the State Animal Health Official for their specific animal movement and exhibition requirements. Testing requirements (see April 2024 Federal Order) currently apply only to lactating domestic dairy cattle moving interstate, which includes auctions and traveling exhibits with lactating dairy cows.

If you decide to move your animals, follow biosecurity best practices for animals in traveling exhibits and auctions:

- Use distance and barriers to minimize contact between farm, exotic, and pet animals. Limit direct contact with the public to the extent possible (i.e., no “milk a cow” exhibits for petting zoos).
- For exhibits that allow direct contact between animals and the public, place handwashing stations with running water, soap, and paper towels near the entrance and exit of the exhibition area. Include directions for the public to wash hands before and after coming in contact with animals.
- Know the signs of influenza in lactating dairy cattle. Should one of your animals begin to show any sign of illness, immediately remove the animal from the exhibition into a temporary isolation area and contact the State Animal Health Official for further direction.
- When you return home, isolate the exhibited animals for 30 days and observe them daily for signs of illness before allowing contact with other susceptible species on your premises that did not travel.

View more biosecurity tips.

Are there updated guidelines for exotic birds housed in human care?

Check out APHIS’ Defend the Flock for the latest biosecurity recommendations to protect birds from the H5N1 virus. You can also download our Infection Control

Practices factsheet.

Are there any updates regarding the development and use of an H5N1 vaccine for exotic birds in human care?

Currently, there is no H5N1 vaccine available for use in exotic birds in human care or poultry.

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