

Highly Pathogenic Avian Influenza FAQs

What is highly pathogenic avian influenza (HPAI)?

- Avian influenza is caused by an influenza Type A virus and primarily affects birds. The currently circulating HPAI is an H5N1, so named based on a combination of two groups of proteins on the surface of the influenza A virus: hemagglutinin or “H” proteins, of which there are 16 (H1–H16), and neuraminidase or “N” proteins, of which there are 9 (N1–N9). Many different combinations of “H” and “N” proteins are possible. Each combination is considered a different subtype, and related viruses within a subtype may be referred to as a lineage. ([APHIS](#))
- Avian influenza viruses are classified as “low pathogenic” or “highly pathogenic” based on their genetic features and the severity of the disease they cause in poultry. Most viruses are of low pathogenicity, meaning they cause no signs or only minor clinical signs of infection in poultry.
- The genome of this H5N1 strain has been sequenced. This information confirms that the strain is not well adapted to infect mammals and no markers related to influenza antiviral resistance were found. These facts support the current conclusions that the health risks to humans remain low and that existing vaccines for animals seem to be effective. ([CDC](#))
- HPAI could become a significant public health concern if a strain were to mutate in a way that allowed for easier human-to-human transmission. Currently, there is no genetic or epidemiologic evidence that this has or is likely to occur.

What is the current situation in the US?

- The currently circulating HPAI virus H5N1 has been found in wild birds and in commercial and backyard poultry flocks since January 2022. More than 1000 poultry flocks have tested positive, affecting 82 million birds, across 48 states. ([CDC](#))
- Detections of HPAI in poultry flocks are typically higher in the Fall and Spring, when wild birds migrate and come into contact with commercial poultry during the migration process. It is estimated that there are more than 360 million egg-laying chickens in the US. As of April 2024, fewer than 4 million birds were estimated to be affected. ([APHIS](#))
- Sporadically, mammals can become infected. Many species are potentially susceptible and several wild mammalian species including foxes, coyotes, dolphins, seals, bears, mountain lions, etc. have also been affected. While it seems that most cases are fatal, it should be noted that this may be because detection of the HPAI virus is done in carcasses that are found by wildlife officials, which may indicate that other animals are infected but fully recover. ([APHIS](#))
- In late March 2024, HPAI was detected in dairy cattle in Florida and Texas, likely transmitted from wild birds.

What is the current situation in dairy cattle?

- As of April 4, 2024, confirmed positive dairy herds have been found in Idaho, Michigan, Kansas, New Mexico and Texas. ([APHIS](#)) Presumptive positive test results have been received from other herds in Idaho and Texas and Ohio.
- At least 180 cattle in a herd of about 4000 animals at a farm in TX showed symptoms, including a significant drop in milk production, a decrease in appetite and rumination, mild respiratory signs, low-grade fever, and thickened "colostrum-like" milk.
- Among samples collected at this dairy farm, Cornell University [reports](#) they detected HPAI in:
 - 95% of raw milk samples
 - 10% of fecal samples
 - 20% of nasal samples
 - Many dead cats and birds on the farm

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- The transmission routes to cattle are unknown, though direct contact, oral consumption, inhalation, and via fomites are being investigated. Based on the positive isolates, researchers suspect that the virus replicates well in mammary tissue.
- With proper veterinary care, infected cows recover in a couple of weeks.

What is the effect on milk safety?

- The FDA reiterates that there is no risk to human health or to the safety of interstate milk. This is because only milk from healthy animals is authorized for distribution and all milk must be pasteurized before entering the market. ([FDA](#))
- Milk from cows with HPAI symptoms is not entering the human food supply and pasteurization will easily inactivate the virus.
- Milk availability is not impacted since the loss of milk from sick cattle represents a very limited part of the overall supply.

Will beef supply chains be impacted?

- There is no current indication that HPAI is in this supply chain.

Will egg supply chain be impacted?

- The likelihood that eggs from infected poultry are in the retail market is low, because the rapid onset of symptoms in egg-laying poultry means that these birds are removed from farms. ([FDA](#))

What preventive measures should be taken?

- Farmers should implement sound biosecurity measures including
 - Limiting the moving of cattle
 - Proper care and cleaning of mammary tissues
 - Cleaning and disinfection of milking equipment
 - Excluding wildlife and domestic animals from buildings ([APHIS](#))
- The health of dairy cattle should be monitored and if any sick animals are identified, they should be separated from the rest of the herd. Their milk should be discarded, following guidance from state regulatory officials.
- The [CDC](#) has published preventive recommendations for those who may have direct or close contact with sick or dead animals, and their fecal material, litter, or other potentially contaminated items. Guidelines include:
 - Use of PPE - goggles, gloves, boot covers, respirator (e.g., N95 mask), coveralls, and hairnets.
 - Training on how to use PPE.
 - Monitoring for respiratory symptoms and eye redness.
 - Avoiding eating or drinking in potentially contaminated areas.
- Feeding only pasteurized raw milk to other cows or calves.
- Humans should only consume pasteurized milk.

Is there a public health impact on humans?

- There is no evidence of changes in the H5N1 viral genome that would make it more transmissible to humans. The one dairy farm worker who tested positive recently had mild symptoms (conjunctivitis) and is recovering.

Additional Resources:

- [CDC Current Situation Summary](#)
- TAG Avian Influenza Fact Sheet