# Animal health update: Avian Influenza (October 11, 2023)

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## Current situation

The Canadian Food Inspection Agency (CFIA) is the lead organization for tracking the presence of highly pathogenic avian influenza (HPAI) in Ontario. As of October 11, 2023 there are no infected premises confirmed in Ontario this fall. The last confirmed case of HPAI was on April 19, 2023, in a commercial flock located in Norfolk County.

The HPAI event that began in December 2021 and persisted through 2022 and 2023 has demonstrated an unprecedented spread of infection to domestic and wild birds but also to some mammals. As the HPAI H5N1 viruses continue to evolve through viral reassortment and by infecting an increased range of wild birds, the risk of the virus becoming endemic in North America is high and continues to present challenges for the poultry industry.

The current status of HPAI in various species in North America is found to be:

- widespread for wild birds
- sporadic outbreaks for poultry flocks and mammals
- no person-to-person spread and the current public health risk is low

Avian influenza (AI) is a federally reportable disease under the *Health of Animals Act*. Attending veterinarians and owners are encouraged to report suspect cases of AI by contacting their local district CFIA office.

AI is not a threat to food safety and Ontario poultry and eggs are safe to eat when properly handled and cooked. The World Health Organization (WHO) continues to characterize the risk of human infection as low and no sustained human-to-human transmission has been reported. On very rare occasions, AI may infect people who have had consistent, close contact with infected

birds. People working with poultry are strongly encouraged to follow all public health guidelines and maintain strict biosecurity.

## Domestic flocks

Across Canada, as of October 2023, 9 provinces have reported cases of HPAI in domestic poultry affecting 319 premises and 7,773,000 domestic birds. There has been a significant decrease in the number of infected flocks in 2023 as compared to 2022. The last detections were reported in:

- Alberta (4 commercial premises and 2 non-commercial premises in September and October 2023)
- Saskatchewan (1 commercial premises September 2023)

For more information, please visit the CFIA's Status of Ongoing Avian Influenza Response by Province webpage.

As of October 2023, the United States has reported a total of 844 outbreaks, 328 in commercial flocks and 516 in small flocks, affecting approximately 59 million birds. To learn more, read the United States Department of Agriculture's (USDA) 2022 Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks.

## Wild birds

As of October 2023, Canada reported a total of 2,486 suspect and confirmed positive HPAI samples in wild birds in all provinces and territories (refer to the status of wild birds confirmed positive). It is estimated that 47,000 wild birds became infected or died from HPAI in Canada since the outbreak began in early 2022.

In the United States, an estimated 37,000 wild birds have been infected or died from HPAI since the outbreak began (January 13, 2022) and 7,235 individual cases have been detected as part of wild bird surveillance. Details can be found at:

- 2022-2023 Detections of Highly Pathogenic Avian Influenza in Wild Birds
- Wildlife Health Information Sharing Partnership Event Reporting System
- Wild Bird Avian Influenza Surveillance

Individuals are encouraged to report findings of dead waterfowl and shorebirds to the Canadian Wildlife Health Cooperative.

## Other mammalian infection

In Canada, beyond poultry species, HPAI has also been reported in 152 individual mammals of 12 different species. In the United States, HPAI has been reported in 203 mammals across 18 species. The significance of these findings in relation to the spread of the virus is unknown at

this time, however the CFIA has updated its website to reflect the range of animals susceptible to HPAI including cautions not to feed raw animal products to pets or livestock.

## Clinical signs

AI is caused by an influenza type A virus, which can infect poultry (such as chickens, turkeys, pheasants, quail, domestic ducks, geese and guinea fowl), and is carried by free-flying waterfowl such as ducks, geese and shorebirds. AI viruses are divided into subtypes based on the combination of 2 proteins: hemagglutinin or "H" proteins (H1–H16) and neuraminidase or "N" proteins (N1–N9). AI viruses are either high or low pathogenicity (HPAI and LPAI respectively), depending on the molecular characteristic of the virus and its ability to cause disease and mortality in domestic poultry.

While both HPAI and LPAI can spread quickly through flocks, LPAI viruses can mutate into highly pathogenic strains, which is why it is important to manage outbreaks promptly.

Birds become infected with AI when they have direct contact with diseased or carrier birds. Infected birds may shed the virus in their feces, contaminating the environment. The virus can survive for days in litter, feed, water, soil, dead birds, eggs and feathers. The disease spreads rapidly among birds in close confinement. AI can be brought into a poultry barn by breaches in biosecurity and is most often transmitted from one infected flock to another by movement of infected birds or contaminated equipment or people.

The incubation period of AI can range between 2 and 14 days.

Clinical signs of infected birds may include:

- decrease in feed and water consumption
- extreme depression
- drop in egg production (many of which are soft-shelled or shell-less)
- high and sudden morbidity and mortality rate
- signs of septicemia
    - hemorrhages on the hocks
    - severe edema of eyelids, wattle and combs
    - hemorrhagic enteritis

# Biosecurity and prevention

Currently, there are no vaccines available in Canada. Implementing and adhering to biosecurity best management practices is critical to preventing the introduction and spread of the disease. Producer and owner diligence is critical to selecting, implementing and maintaining specific, effective biosecurity measures.

To reduce the probability of HPAI virus transmission from wild birds to domestic poultry, strict biosecurity measures should be implemented for all types of poultry holdings.

In addition to the requirement to notify the CFIA, AI is also an immediately notifiable disease by laboratories to the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) under Ontario's *Animal Health Act*. Attending veterinarians with questions related to poultry health may contact an OMAFRA veterinarian through the Agricultural Information Contact Centre at 1-877-424-1300.

Key steps to reduce the risk of infection in your flock include:

- ensuring adequate training of farm and company personnel in biosecurity and disease prevention
- requiring all people entering poultry barns, including farmers, employees and service providers to put on clean footwear and protective clothing and to follow all biosecurity protocols each time a barn is entered
- minimizing visits to other poultry production sites
- **avoiding any commingling of birds or contact with outside/wild birds**
- avoiding exchanging and sharing equipment with other poultry production sites or farms
- ensuring all vehicles and farm equipment that access the barn vicinity are properly washed, disinfected and thoroughly dried before use
- ensuring that laneways are restricted and secured
- preventing wild bird and rodent entry to poultry barns and related facilities
- ensuring that bedding is free of contaminants (such as feces from wild animals)
- "heat treating" the barn/litter ahead of chick or poult placement (to 38°C for at least 4 days), if possible
- keeping all domestic poultry indoors during the high-risk period of spring and fall migration
- Avoiding events where birds from different locations are brought together, including shows, fairs, swaps, sales and sporting events (commingling birds from various locations increases the risk of disease spread, including diseases such as AI)

AI is not a food safety or significant public health concern for people who are not in routine and repeated contact with infected birds. However, AI viruses can infect people who come into contact with the virus via eyes, nose or mouth, or if the virus is inhaled through aerosol suspension. This is of concern for people who are in unprotected and routine contact with infected birds or contaminated surfaces. Questions or concerns about human health should be directed to the local public health unit or a physician.

# Additional information

## Canadian Food Inspection Agency

Avian Influenza - Canadian Food Inspection Agency

## Canadian Wildlife Health Cooperative

Avian Influenza - Canadian Wildlife Health Cooperative

## World Organization for Animal Health

Avian Influenza - World Organization for Animal Health

## United States

USDA APHIS | 2022-2023 Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks

WAHIS and USDA APHIS | 2022 Detections of Highly Pathogenic Avian Influenza in Mammals

## Bird Cast – United States

Live bird migration map

## European Union

EURL Avian Flu Data Portal

## Health Canada

Public Health Agency of Canada

Guidance on human health issues related to avian influenza in Canada