

AGRI-FACTS

Practical Information for Alberta's Agriculture Industry

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Avian Influenza

What is avian influenza (AI)?

Avian influenza (AI), sometimes called “avian flu” or “bird flu,” is a contagious viral disease that affects the respiratory, digestive and/or nervous systems of many bird species.

Although multiple strains of avian influenza have been detected in wild waterfowl for many years, the birds may not always show clinical signs of disease (see more information below).

The term “pathogenicity” (the potential capacity to cause a disease or how pathogenic a virus is) is a term commonly used when discussing avian influenza. The term refers to the severity of disease caused by a particular strain of the virus.

Some highly pathogenic strains of AI can cause disease in waterfowl. Illness or death due to AI can occur in other species of birds, including domestic chickens and turkeys if they are exposed to certain strains of the virus.

What is the state of AI readiness?

Is Alberta ready in the event of an outbreak of avian influenza? What is being done to protect the poultry industry?

Governments and industry have worked together to plan and prepare for the possibility of an outbreak of a disease like avian influenza in the poultry industry.

There are programs and projects in place to prevent and address AI:

- Comprehensive emergency response plans are in place that outline actions that would be taken if avian

influenza were to be detected in Alberta poultry. The plans were developed together with the Canadian Food Inspection Agency (CFIA), the poultry industry, Alberta Health and Alberta Environment and Sustainable Resource Development. Exercises are conducted regularly to test the response plans.

- Monitoring for the AI virus is done in commercial poultry and backyard flocks by testing dead birds that could have the virus.
- Working with the Canadian Co-operative Wildlife Health Centre, Alberta Agriculture and Rural Development (ARD) tests for and records the presence of AI in wild birds in Alberta and across Canada.
- An avian influenza prevention program is in place that encourages effective biosecurity practices in commercial poultry industry and backyard flocks.
- ARD's [Containment Level 3 laboratory](#), completed in 2006, allows Alberta to conduct advanced work with livestock diseases such as avian influenza.
- ARD's laboratory operates as part of a national laboratory network that provides diagnostic testing for foreign animal diseases. This lab provides regional AI diagnostic testing for Alberta, northern British Columbia (B.C.) and the territories.

It is important to prevent contact between domestic poultry and wild birds

What should Albertans do if avian influenza is suspected?

Avian influenza in domestic poultry is reportable both federally, to the CFIA and provincially, to the Office of Alberta's Chief Provincial Veterinarian (OCPV). For additional detection and prevention, the OCPV should also be notified if AI is found in wild birds in Alberta.

To report avian influenza in Alberta, or for more information, call the OCPV at 780-427-3448 or call toll free by first dialing 310-0000.

See the [CFIA website](#) for more information about federally reportable diseases.

How many types of the avian influenza virus are there?

There are many subtypes of the AI virus, labelled with “H” and “N” numbers: H1 through H16 along with N1 through N9 (for example, H5N1, H7N3, H5N8). Also, there are many strains of virus within each subtype.

There are also two basic classifications of AI: low and high pathogenic forms. The pathogenicity, or ability of a virus to cause severe disease, is determined in the laboratory.

Low pathogenic AI may cause no clinical signs or only very mild clinical signs in poultry while high pathogenic AI can cause severe clinical signs and often high flock mortality. Only H5 and H7 subtypes have demonstrated the ability to mutate from a low pathogenic form to a high pathogenic form in poultry. As a result, most strains of the AI virus are of low pathogenicity.

What are the clinical signs of avian influenza?

Different degrees of illness occur in birds because of the different strains and pathogenicity of avian influenza. Clinical signs in poultry can vary widely and include the following:

- no signs of disease at all and quick recovery from the infection
- the onset of depression and droopiness, and/or loss of appetite
- a sudden drop in egg production, many of the eggs are soft-shelled
- a purplish-blue colouring of wattles and combs, with blisters on the combs
- a swelling of the skin under the eyes
- coughing, sneezing
- diarrhea
- nervous signs, such as a lack of co-ordination and the inability to stand or walk
- a few deaths over several days in the flock, followed by a surge in mortality and an epidemic that kills hundreds or thousands of birds each day

How is avian influenza spread?

AI is spread from infected birds to susceptible birds. Migratory wild birds are often the source of the disease in domestic poultry. The AI virus is highly concentrated in feces and in nasal and eye discharges.

Indirect transmission can also occur via contaminated poultry products, vehicles, equipment, egg flats, egg cases, clothing and footwear, as well as contact with rodents or farm dogs and cats. Feed and water contaminated with infected feces can be a source of the AI virus. Biting insects can also spread the disease.

Does avian influenza affect humans?

A few AI strains have infected a small number of people through direct contact with sick birds, infected dead birds or droppings from sick birds. An outbreak of influenza (H5N1) originating from birds caused six deaths in Hong Kong in 1997. Between 2003 and 2014, there were 668 cases of humans infected with H5N1, and 393 of these people died from their illness.

In 2014, Alberta reported its first human death due to an H5N1 infection. This person travelled to China, and upon returning to Alberta, became ill.

Human-to-human spread of AI virus is very rare. More information about avian flu and human health can be found on the [Alberta Health website](#).

Does avian influenza affect the safety of poultry meat products?

AI viruses do not pose risks to food safety when poultry and poultry products are properly handled and cooked.

Is avian influenza in Canada?

- In 1966, high pathogenic avian influenza was identified in Ontario.
- In 2004, an outbreak of high pathogenic AI (H7N3) in B.C. resulted in the destruction of millions of domestic poultry at an estimated cost of \$300 million.
- In 2005, detection of low pathogenic AI (H5N2) in B.C. resulted in the depopulation of poultry on a single farm.
- In 2007, a single poultry farm in Saskatchewan was infected with high pathogenic AI (H7N3) and was depopulated to prevent spread of the disease.

- Since that time, low pathogenic AI was isolated in B.C. in 2009 (H5N2) and in Manitoba in 2010 (H5N2). Both cases resulted in depopulation.
- In December 2014, high pathogenic AI (H5N2) was identified in B.C. on several poultry farms. More information on the response is available on the [CFIA website](#).

A number of different strains of AI virus are known to exist in wild birds in many parts of Canada.

How is avian influenza controlled if there is an outbreak?

All H5/H7 strains of the AI virus are federally reportable in Canada under the *Health of Animals Act*, whether or not they are highly pathogenic. The control or eradication of outbreaks of H5/H7 AI viruses is led by the Canadian Food Inspection Agency (CFIA) with additional support available from the provinces.

For more information about the CFIA's approach to the control of avian influenza, please visit the [CFIA website](#).

How can avian influenza be prevented?

The CFIA and the Canada Border Services Agency enforce strict regulations on imports of poultry and poultry products from foreign countries. Poultry vehicles and equipment may be inspected and disinfected to ensure they are free from contamination before entering Canada.

Producers can help prevent the spread of AI through strict biosecurity and early detection. It is impossible to

prevent the entry of all AI viruses into Canada because of the presence of the virus in wild birds, especially waterfowl. However, the implementation of an [effective biosecurity](#) plan by producers is essential in protecting domestic poultry from AI.

Producers and veterinarians must be familiar with the clinical signs of the disease to detect AI early. Early detection helps ensure a quick response – which, in turn, helps minimize the spread of the virus and the economic damage to the industry.

Producers must prevent contact between domestic poultry and wild birds. Producers should also discourage the presence of wild birds in dugouts and ponds. If dugouts are being used as a source of drinking water, treat the water to kill the virus. Control access to poultry houses and facilities by people and equipment. Make sure poultry equipment is clean and disinfected before it is used, especially if it was used on another farm.

Is there a vaccine for avian influenza?

Yes, there are vaccines for some strains of AI, but these vaccines do not necessarily provide protection for the many strains that exist. Since there is no way of predicting which strain of the AI virus will infect a flock, vaccination is not recommended as a preventative measure.

Vaccination may be used in the face of an outbreak where the strain of the virus has been identified, but this is a decision made on a case-by-case basis.

For more information about the content of this factsheet, contact the Office of the Chief Provincial Veterinarian at 780-427-3448 or toll-free by first dialing 310-0000.

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More information, contact:
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