



H5N1 – Highly Pathogenic Avian Influenza

Practical Tips to Deal with an Emerging Threat

Recent news stories have increased public attention toward High Pathogenic Avian Influenza, or what is colloquially known as “bird flu.” Recent reports suggest that there is widespread infection in wild and domesticated flocks and farm animals, and there was even a recent human case in Texas. However, while these reports might be frightening, the CDC believes that the risk for human infection remains **low**. That’s the good news! The following article will give a basic rundown of bird flu, who is at risk, and how to prevent your animals or (and this is much less likely) yourself from getting sick.

The Basics

First off, what *is* bird flu? Specifically, the current strain of bird flu that is being tracked by the CDC has been labeled HPAI, or Highly Pathogenic Avian Influenza. It is an Influenza type A, also called H5N1 (which is a descriptor of the proteins on the surface of the virus that it uses to infect the body). While it’s called “highly pathogenic,” this specifically refers to how well it spreads among birds, and not necessarily among humans. While it spreads incredibly quickly between birds of all kinds and has spread to some mammal species such as domesticated livestock and some wild animals, it appears that cases of human infection are still incredibly rare, and cases of person-to-person transmission are rarer still. Right now, this strain of bird flu is more of a danger to farm animals than people, and the greatest risk is for those interacting with those animals on a regular basis. As a result, much of the advice out there is for folks who keep and handle livestock (especially poultry), whether they are amateur backyard poultry enthusiasts or full-fledged farmers.



Like most kinds of the flu, symptoms tend to be respiratory, although early symptoms can often manifest as a sort of conjunctivitis, more commonly known as pinkeye. However, prior strains of bird flu have been shown to have a very high mortality rate in both animal and human populations (greater than 50%), so local, state, and federal agencies are monitoring the situation closely as it develops and are taking steps to prevent the spread of the disease among livestock.

Protecting Animals

At time of writing, the biggest spreader of bird flu are wild bird flocks, especially waterfowl like ducks, geese, and swans. Therefore, allowing your animals (especially poultry like turkeys, chickens, and domesticated ducks) to come into contact with potentially infected wild birds could pose a significant risk of infection. The virus can spread not just through the birds themselves, but also their mucous, saliva, or feces. Luckily, there are some practical ways of protecting your animals from infection.

- As in all cases, prevention is worth a pound of cure. Reduce standing water when possible on your property to discourage waterfowl from congregating.
- Do not let your flocks “free range” at this time.

- If you allow your poultry out of their enclosure, make sure to use netting to close off their enclosure from potentially infected wild birds.
- If you have wetlands or waterways on your property, take efforts to reduce access to those areas for waterfowl where possible.
- Wear either separate footwear when accessing your poultry's enclosure, or else have a ready bucket and scrub brush with a disinfectant solution so you can thoroughly scrub the bottoms of your soles before entering. This will help accidentally tracking contaminated feces into your flock's enclosure. If possible, change clothes entirely before working with your flock.
- Monitor your animals for symptoms of disease. If you spot a sick or dead bird from among your flock, contact 617-626-1795, or complete a poultry disease reporting form online (link in references).
- If you spot a wild animal that is sick or dead, report this to the Massachusetts Department of Fish and Game, Divisions of Fisheries and Wildlife (link in references).

Preventing Human Disease

While human infection by bird flu of most strains is extremely rare, it is still possible. Bird flu can spread to humans if the virus gets into the body through the eyes, mouth, nose, or airways. This can happen either through aerosol (tiny particles of virus in the air) or from touching a contaminated surface and then touching your face. Those at particular risk are those who have *prolonged, unprotected contact* with potentially infected animals. In addition, raw animal products derived from potentially infected animals (such as raw milk, unpasteurized eggs, or dairy products made with unpasteurized milk) might lead to human infection. As a result, take the following precautions to help prevent human infection:

- Take proper precautions when handling animals that might be sick, or dead animals. Wear Personal Protective Equipment (PPE) such as eyewear, gloves, and a well-fitted respirator (such as an N95 mask).
- Avoid touching your eyes, mouth, nose, or other parts of your unprotected body while working with potentially infected animals.
- Wash your hands thoroughly after removing PPE and after handling potentially infected animals.
- Do not consume raw animal products from potentially contaminated animals. Drink only pasteurized milk, eat pasteurized milk and egg products, and/or thoroughly cook any egg products you prepare. There is no evidence of human exposure from properly, fully cooked meat or poultry.
- Avoid direct, unprotected contact with any surfaces or substances that might be contaminated, including raw milk, fecal matter, litter, animal carcasses, sick animals, or bodies of water inhabited (or that have been inhabited by) waterfowl.
 - If you do come into contact with potentially contaminated surfaces or animals, monitor your symptoms and contact your local or state health departments for guidance. If you are a local or state employee responding to an outbreak, reach out to your Safety Officer.



Those who may have been exposed should monitor themselves for the following symptoms:

- Fever (specifically over 100 F),
- Chills,
- Cough,
- Sore throat,
- Shortness of breath,
- Redness or irritation of the eyes,
- Headaches,
- Runny or stuffy nose,
- Muscle/body aches,
- Diarrhea.

If you manifest any of these symptoms, seek medical attention. Antivirals might be prescribed to those infected and medical care provided to mitigate the symptoms.



References

Poultry Disease Reporting Form - mass.gov/forms/poultry-disease-reporting-form

Wild Bird Reporting Form - mass.gov/forms/report-observations-of-dead-wild-birds

CDC Infographics - cdc.gov/flu/pdf/avianflu/Bird-Flu-Exposure-Handout.pdf ;
cdc.gov/flu/pdf/avianflu/avian-flu-transmission.pdf

Interim Recommendations and Guidance from the CDC - cdc.gov/flu/avianflu/hpai/hpai-interim-recommendations.html

Mass.gov Infographics -

mass.gov/doc/prevent-exposure-to-highly-pathogenic-avian-influenza-virus-in-your-poultry-flock/download

NIOSH Signage Regarding PPE - cdc.gov/flu/pdf/avianflu/protect-yourself-h5n1.pdf

CDC How to Put On and Take Off PPE - cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf