



Avian Influenza (AI)



What is Avian Influenza?

Avian influenza is a viral infection of birds caused by a group of influenza viruses (type A influenzas). These viruses naturally circulate in wild birds and are maintained in populations largely through fecal-oral contact. Like all influenza viruses, avian influenza can change rapidly by mixing its genetic components to form different virus subtypes. Certain subtypes are associated with severe disease in domestic poultry (highly pathogenic).

What does highly pathogenic mean?

Avian influenza viruses are divided into two main groups based on their ability to cause disease in poultry.

1. Low pathogenic avian influenza (LPAI) occurs naturally in wild birds. While it can be spread to domestic poultry, it generally causes minimal or no clinical signs in birds. These subtypes are common in the US and around the world.
2. Highly pathogenic avian influenza (HPAI) is often fatal in domestic poultry and can spread rapidly. Viruses with H5 and H7 surface proteins are highly pathogenic.

Does Avian Influenza cause disease in wild birds?

While most influenza viruses rarely cause illness in wild birds, occasionally HPAI can cause disease and mortalities. Some wild birds that may be more likely to develop disease or mortality from AI include: All swans, diving ducks (especially Aythyinae family), wood ducks, northern shovelers, gulls, Canada geese, greater white-fronted geese, grebes, American wigeon, terns and other charadriiformes. Scavengers such as raptors and vultures and game birds such as turkey, grouse, and quail may also be susceptible.

What are some clinical signs of disease?

Signs of avian influenza are not well characterized in wild birds, but some sources indicate that signs associated with the central nervous system may be more common in wild birds such as: swimming in circles, head tilt and lack of coordination. Other signs could include: edema or swelling of the head, respiratory signs, diarrhea or general depression and inappetence. Some affected wild birds are just found dead.

Can humans be infected?

Avian influenza viruses do not typically infect humans; however, HPAI can be zoonotic and highly pathogenic subtypes have been associated with disease in humans (H5N1, H7N9). Please wear appropriate PPE to minimize the risk (wear latex/nitrile gloves when picking up carcasses, and an N-95 mask if you are in close contact with sick/dead birds).

The subtypes recently identified in the US have not been associated with human disease.

Information for Hunters:

Please advise hunters not to handle or eat sick birds, and use the following precautions when handling birds: Wear rubber or latex gloves when handling and cleaning game. Wash hands thoroughly and clean knives, equipment and surfaces that come into contact with game. Do not eat, drink, smoke or chew when handling game. Cook all game thoroughly before consumption (inner temperature of meat should reach 165 F).

Information for Falconers:

The avian influenza virus can be transmitted to birds of prey from all ducks, geese, swans, seabirds, cranes and herons. As a precaution, we are advising falconers to avoid hunting wild avian species and particularly waterfowl during an HPAI outbreak. We also recommend against feeding waterfowl or other dead wild birds to captive raptors. Do not use or limit the use of your live birds, and minimize their contact with wild birds. Disinfect your equipment between birds, if it has been outside in contact with wild birds. Use adequate disinfectants (e.g., 1% virkon or 10% bleach solutions with 10 minute contact time to kill the virus). Quarantine birds that appear sick (e.g., tremors, difficulty breathing, discharge from their nares/mouth, lethargy) away from other birds and make sure to practice proper biosecurity in between caring for birds (e.g. wash hands, change boots and clothes, disinfect equipment, etc.).

Information for Game Bird Farms:

Game birds such as pheasants, partridges and quail may be highly susceptible to HPAI. In order to protect captive game birds, good sanitation and biosecurity must be maintained and contact with wild birds must be minimized or prevented, particularly migratory waterfowl. Disinfect equipment between groups of birds and anytime it is suspected that equipment may have been in contact with wild birds. Use adequate disinfectants (e.g., 1% virkon or 10% bleach solutions with 10 minute contact time to kill the virus). Quarantine birds that appear sick (e.g., tremors, difficulty breathing, discharge from their nares/mouth, lethargy) away from other birds and practice proper biosecurity in between caring for birds (e.g. wash hands, change boots and clothes, disinfect equipment, etc.). Humane euthanasia is acceptable in cases where quarantine cannot occur. Contact your premises veterinarian, USDA and/or your state veterinarian if you notice illness in your flock, or experience high mortalities

Information for Wildlife Rehabilitators:

All birds, even apparently healthy ones, should be quarantined before mixing with resident birds. Avoid mixing species and unnecessary bird-to-bird contact. In order to protect captive wild birds, good sanitation and biosecurity must be maintained. Disinfect equipment, including transportation and housing crates, between birds and anytime it is suspected that equipment may have been in contact with wild birds. Use adequate disinfectants (e.g., 1% virkon or 10% bleach solutions with 10 minute contact time to kill the virus). Consider limiting or stopping admissions of wild species with high risk for carrying avian influenza viruses during an HPAI outbreak (e.g. waterfowl). If birds in your facility show signs of illness, consult with a veterinarian immediately to facilitate testing.

For additional information on AI or any other wildlife disease, please contact the WGFD Wildlife Health Laboratory at 307-745-5865.

Additional information on avian influenza can be found at the following:

- USDA APHIS: <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza>
- Centers for Disease Control: <https://www.cdc.gov/flu/avianflu/avian-flu-summary.htm>
- Wyoming Department of Agriculture: <https://wyagric.state.wy.us/>
- Wyoming Livestock Board: <https://wlsb.state.wy.us/public>
- Utah State University – Disinfection Guidelines: https://extension.usu.edu/poultry/files/036_AG_Poultry_2015-01pr.pdf
- USDA Guidance for Hunters: https://www.aphis.usda.gov/publications/animal_health/2015/fsc_hpai_hunters.pdf
- CDC guidance for protecting workers from avian influenza: <https://www.cdc.gov/flu/avianflu/h5/workerprotection-ppe.htm>