



What Small Flock Owners in Maine Need to Know About Avian Influenza (“Bird Flu”)



Your role as a small flock owner

Worldwide, there are many strains of avian influenza (AI) virus that can cause varying amounts of illness in poultry. Exposure of poultry to migratory waterfowl and the international movement of poultry, poultry equipment, and people pose risks for introduction of AI into U.S. poultry. By making biosecurity a part of your daily routine while caring for your birds, you decrease the chance of AI showing up on your doorstep.

Practice “backyard biosecurity”

Your birds can become sick or die from exposure to just a few unseen bacteria, viruses, or parasites. Biosecurity is simply informed common sense: don’t bring germs to your birds and don’t bring your birds to germs. You can make sure your property is a “safe” area by using biosecurity practices to keep disease out. A small tub, some disinfectant, and a brush will go a long way toward protecting your birds from “outside” disease. The USDA has developed “Biosecurity for the Birds,” a Web site to help backyard poultry owners promote avian health. See <http://www.aphis.usda.gov/vs/birdbiosecurity/>.

Source: “Avian Influenza” and “What is Backyard Biosecurity?”, Biosecurity for the Birds, USDA AHPIS Veterinary Services, <http://www.aphis.usda.gov/vs/birdbiosecurity/> (retrieved March 17, 2006).

What is avian influenza?

Avian influenza (AI) or “bird flu” is a contagious viral infection found worldwide. It is caused by a Type A influenza virus. AI can affect common farmed bird species (chickens, turkeys, quail, pheasants, guinea fowl, and domestic waterfowl), pet birds, and wild birds. Any bird can contract AI, and many wild bird species, especially waterfowl, carry it without showing signs of disease.

Most AI viruses in birds cause few symptoms. There are many subtypes of AI viruses, which can be classified as low pathogenicity (“low-path”) or high pathogenicity (“high-path”) viruses. Low-path AI causes only mild illness, if any. High-path AI causes severe illness and death among infected birds. Some low-path AI viruses are capable of changing into high-path viruses.

The virus of greatest concern at present is an H5N1 subtype of high-path virus. H5N1 has killed a large number of wild waterfowl and domestic poultry in Asia and Africa, and has now spread to Europe as well. The H5N1 strain of AI causes severe disease in domesticated and wild fowl. This virus is of particular concern because some people have contracted H5N1 from birds, and many of them have died. H5N1 avian influenza has not yet spread to North America.



How is avian influenza spread?

In infected birds, AI virus is shed in nasal secretions, saliva, and feces. Birds become infected when they have direct contact with secretions and

feces of infected birds, or with contaminated surfaces or infected food and water supplies. Airborne respiratory secretions can infect birds in poorly ventilated barns.

AI can spread in domestic bird populations through contact with infected poultry or poultry products, as well as through poor biosecurity, such as contaminated footwear and clothing, or infected litter and manure. Waterfowl and other wild birds can contaminate areas where they land and feed during migrations.

Can people get avian influenza?

AI viruses may infect humans, although it is rare. So far, people have only contracted AI after prolonged contact with heavily contaminated environments. The risk for human-to-human transmission of avian influenza is limited. Of the many strains of avian influenza A viruses, only four are known to cause human infections: H5N1, H7N3, H7N7, and H9N2. However, due to the potential for cross-species infection, the University of Maine recommends that people working in contact with potentially infected avian species wear protective clothing including face masks/respirators, protective eye wear, latex gloves, and boots.

Can household pets get avian influenza?

Recent research has shown that some mammalian species may be infected with AI virus. These include marine mammals (seals and whales), swine, farmed mink, and pet ferrets. There have been recent reports of avian influenza infection in domestic cats in Thailand. The World Health Organization continues to investigate the Thailand case and reports that is unlikely that H5N1 infection in cats presents a risk to human health.

Pigs are the only domesticated mammals with significance to human health since they can get both human and avian strains of influenza. This could result in the mutation of an avian strain to one that is capable of human-to-human transmission.

Is it safe to eat poultry products?

Avian influenza is not transmitted through properly cooked food. If poultry products are cooked to safe temperatures, the virus will be destroyed. Cook poultry and egg products to at least 165°F (or 74°C) – in all parts of the food – to ensure that the

food is safe to eat. There have been no reports of people contracting the virus after eating properly cooked poultry, even poultry that had previously contained the AI virus. However, refrigeration and freezing do NOT kill the virus.

Follow safe food handling practices to reduce the risk of contamination from bacteria and viruses when preparing food. Keep cooked food products and vegetables separate from raw meat and poultry. Wash your hands with warm soapy water after handling raw poultry. Wash surfaces and utensils that come in contact with raw eggs and poultry in hot, soapy water. Cook poultry and egg products thoroughly, monitoring poultry with a meat thermometer to ensure proper cooking temperature.

Poultry infected with AI usually stop laying eggs, so infected eggs are rare. To limit your risk, don't eat raw or partially cooked eggs or products containing raw eggs, including raw batter, eggnog, homemade salad dressings, meringues, tiramisu, and some homemade ice creams. Commercial salad dressings, eggnogs, and ice creams are safe to eat because they are made with pasteurized eggs. Use pasteurized eggs in recipes calling for raw eggs.

The FDA has published "Questions and Answers on Avian Influenza ('Bird Flu') and Food Safety," available at <http://www.cfsan.fda.gov/~dms/avfluqa.html>.



How can I keep my flock safe and help prevent the spread of avian influenza?

Live bird markets are a potential AI infection source on the East Coast of the U.S. Birds should not be brought back from live bird markets. Disinfect cages, containers, and vehicles that have been at live markets.

Infection of domesticated fowl from infected migratory birds is probably the greatest risk in Maine. Wild birds and their feces can be a major source of infection to domestic flocks. Prevent contact with free-flying birds and their feces. Infected birds shed the virus in feces, nasal discharges, and saliva, generally in the first two weeks of infection. Avian influenza viruses can survive for long periods when temperatures are low. High-path AI can survive in poultry feces

for at least 35 days at temperatures of 4°C or 39°F.

AI viruses are killed by most disinfectants and detergents as well as by heating and drying. However, feces can insulate the virus from disinfectants. The virus has been found in feces up to 105 days after infection. Remove all accumulated fecal material regularly. Effective composting of litter, feces, and dead birds can destroy AI virus.

Remember that vaccines are not generally effective in preventing disease in poultry. Maintain excellent on-farm biosecurity and sanitation standards by following these practices:

- ▶ Avoid live bird markets.
- ▶ Avoid areas used by wild fowl, especially waterfowl.
- ▶ Eliminate wild bird feeders and duck ponds on your farm.
- ▶ Restrict access to your poultry houses by people and equipment.
- ▶ Regularly clean and disinfect equipment before using it in poultry houses.
- ▶ Limit access of on-farm poultry to outside areas that might be contaminated by migratory wild birds.
- ▶ If you use surface water (such as from ponds and streams) as a water source for poultry in houses, disinfect before use. Ask your veterinarian how to best disinfect your water supply.



What are the disease symptoms in birds?

Many or all of these clinical signs are expressed in AI-infected birds:

- ▶ Ruffled feathers with quietness and extreme depression
- ▶ Reduced egg production or soft-shelled eggs
- ▶ Swollen or purplish wattles
- ▶ Coughing and sneezing
- ▶ Diarrhea
- ▶ Swelling of the combs and skin under eyes

- ▶ Petechial hemorrhages (small points or dots of bleeding under the skin)
- ▶ Hemorrhages on the hock and shanks
- ▶ Sporadic death initially leading to high mortality rates (high-path AI has a mortality rate of 90 to 100 percent, often within 48 hours)

As avian influenza is a reportable disease, poultry producers are required to report any suspicion of AI. If you note or suspect any of the above clinical signs in your poultry, contact your veterinarian or the Maine Department of Agriculture (207-287-3701).



How can I have a bird tested for AI?

If you have experienced any unusual illness or mortality in your poultry flock, please call either Dr. Don Hoenig, Maine state veterinarian, at (207-287-3701 or 207-287-7615) or the

University of Maine Cooperative Extension Livestock Office (207-581-2788).

Depending on the situation, arrangements can be made to submit a bird or birds for necropsy.

Online Resources:

State of Maine

- ▶ <http://www.maine.gov/agriculture/ahi/diseases/avianflu.html>
Maine Dept. of Agriculture, Food and Rural Resources fact sheet on Avian Influenza
- ▶ <http://mainegov-images.informe.org/agriculture/ahi/diseases/MaineavianFAQ.pdf>
Maine Centers for Disease Control (2005) Maine Frequently Asked Questions on Avian and Pandemic Influenza

University of Minnesota

- ▶ <http://www.cvm.umn.edu/ai/>

U.S. Government

- ▶ <http://www.aphis.usda.gov/vs/birdbiosecurity/>
"Biosecurity for the Birds," USDA Animal and Plant Health Inspection Service Web site for backyard flock owners
- ▶ <http://www.pandemicflu.gov>
One-stop access to U.S. Government avian and pandemic flu information. Managed by the Department of Health and Human Services
- ▶ <http://www.cdc.gov/flu/avian/gen-info/facts.htm>
Centers for Disease Control and Prevention (2006) Key Facts about Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus
- ▶ http://fsrio.nal.usda.gov/document_reslist.php?product_id=204
United States Department of Agriculture (USDA) (2006) Avian Influenza Pathogens and Contaminants

World Health Organization

- ▶ http://www.oie.int/eng/AVIAN_INFLUENZA/home.htm
World Organization for Animal Health (2006) Avian Influenza
- ▶ http://www.who.int/mediacentre/factsheets/avian_influenza/en/
World Health Organization (2006) Avian influenza ("bird flu") fact sheet
- ▶ http://www.who.int/csr/disease/avian_influenza/foodrisk2005_11_03/en/
World Health Organization (2005) Epidemic and Pandemic Alert and Response on Avian influenza, "Food Safety Issues"

Media

- ▶ http://www.usatoday.com/news/health/bird_flu_06/flash.htm
This is a very good, easy-to-understand overview of avian influenza

Need more information?

University of Maine Cooperative Extension State Livestock Office: 207-581-2788, mpotts@umext.maine.edu

Maine CDC (Center for Disease Control and Prevention): Division of Disease Control, 800-821-5821

Maine Department of Agriculture, Division of Animal Health and Industry: Donald E. Hoenig, State Veterinarian, 207-287-7615, Donald.E.Hoenig@maine.gov; Bill Morrison, Poultry Health Technician, 207-592-1019, WTMorri@aol.com

State Public Health Veterinarian, Maine CDC: Robert Gholson, State Public Health Veterinarian, 207-287-3361, robert.gholson@maine.gov

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