



Avian Influenza: Guidelines for backyard poultry flocks

Lindsay Chichester, Nebraska Extension Educator
and Dr. Sheila Purdum, UNL Poultry Specialist

This article will provide information about Avian Influenza and suggest recommendations for small or backyard flock owners. Avian Influenza can affect all birds, regardless of housing arrangement or size of flock.

What birds can be infected? The AI virus will infect: chickens, turkeys, quail, ducks, geese, guinea fowl, and a wide variety of other birds.

Avian Influenza Symptoms: Lethargic (tired) or listless, depression, decreased egg production, coughing, sneezing, wet eyes, huddling, ruffled feathers, decreased food and/or water consumption, or a high temperature/fever. In three to five days there may be an 80-90% mortality rate. In your flock, if mortality increases, contact your local veterinarian immediately so they can help you get viable swabs to a lab as soon as possible.

Understanding Influenza: Cases of AI started popping up on the West Coast in December 2014 and have since moved east. The influenza virus is not new or uncommon. People get seasonal influenza (Types A and B) and swine get influenza (Type A). Most currently, we are familiar with Avian Influenza (Type A) which affects all types of birds. Within each type there are various H (16) and N (9) types, hence why you may see the viruses reported as H5N2. Additionally, viruses get together and exchange genetic material, re-sorting and mutating – making it challenging to effectively treat a virus.

Avian Influenza can either be referred to as Highly Pathogenic (HP) or Low Pathogenic (LP). High pathogenic indicates it is a severe and highly infectious disease - to cause an outbreak, only the amount of virus that will fit on the head of a pin is needed. With HP, there may be an 80-95% mortality rate in as little as five days. The HP is usually types H5 or H7. Low pathogenic on the other hand is a mild disease, with a low mortality rate usually caused from a secondary bacterial infection. The LP types are H1, H3, H5, H7, or H9.

Highly Pathogenic flocks DO NOT enter the food supply. They are humanely euthanized and properly disposed of by composting or burial.

Sources of infection and spread: Wild migratory water fowl are the natural host, which means they can become infected but they do not generally get sick and/or die from the infection. However, they will spread it to other healthy hosts (i.e. birds), making them sick or resulting in death. The wild migratory water fowl will shed large amounts of virus into the environment via ponds, waterways, as well as onto grain fields in the spring or fall when large numbers congregate together. Sparrows act as a bridge between waterways where the virus host birds have been and poultry barns or backyard flocks. Sparrows are attracted to small puddles of water in which they bathe, drink, or look for insects to eat. In addition to infected birds visiting your healthy birds, shared equipment and people are sources of possible contamination. The AI can also be

spread via wind – more specifically, dust and feathers may be vectors (although this is not the primary method of how the virus is spread). Nasal secretions may also be a source of contamination.

How long can the virus survive? Survival of the influenza virus depends on the strain. Fortunately, highly pathogenic (HP) strains do not usually survive as long as LP strains.

- The influenza virus will survive on a clean surface for two days.
- In fecal material or compost, the virus will survive for about 10 days (very important to know if you are doing dead animal composting).
- In liquid manure, the influenza virus can survive in winter for 105 days.
- While feces protect the virus, temperature also has a dramatic effect:
 - o If feces are at 40° Fahrenheit, the virus will survive 30-35 days
 - o If feces are at 70° Fahrenheit, the virus will survive seven days
 - o If feces are at 90° Fahrenheit, the virus will survive four days
 - o If the drinking/bathing water is at 66° Fahrenheit, the virus will survive 94-160 days
 - o If the drinking/bathing water is at 88° Fahrenheit, the virus will survive 26-30 days

Things that help the virus thrive: Cold or freezing temperatures, fresh or slightly salty water, grain fields or water located in convenient locations, inadequate biosecurity, and possibly strong winds.

Things that hurt the virus: warm weather, dryness/sunshine, salt water, most disinfectants, high level of biosecurity, frozen lakes/rivers, and a surveillance program.

Is there treatment options available for the birds? Currently, there is no immunity in poultry flocks as they are not regularly vaccinated. At this time, vaccinations are only permitted for LP flocks. The USDA's Animal and Plant Health Inspection Service (APHIS) and state vets are determining if vaccination can be used as an emergency procedure for HP birds. At this time, vaccine is not available and still under review.

What if I find a dead wild bird at/near my home or an area I visit regularly? To err on the side of caution, it is recommended to call your State Veterinarian (a list of state vets and their contact information can be found at: <https://www.avma.org/advocacy/stateandlocal/stateanimalhealthofficials/pages/default.aspx>) and arrange to have a sample sent to the National Poultry Disease Lab in Ames, Iowa. Your local veterinarian can assist with getting the sample packaged and sent. Again, it is important to note, if you have wild birds on your property, you should proceed with strict biosecurity protocols for your backyard poultry flock's health and safety.

What should I use to disinfect shoes/equipment/eggs? A low to mild Clorox solution (three parts bleach to two parts water), soapy sanitizers, or other disinfectants mixed per label instructions.

What happens if I have to depopulate my flock? Thoroughly disinfect everything. Allow the amount of time needed, as provided above, to pass. During this time, review your biosecurity plan and look for areas that could be made stronger. Do you know when and/or how your flock became infected? What will you change as a result?

Risk to humans: The risk of contracting AI is low to negligible in humans. The Centers for Disease Control (CDC) reports that to date, there have been no reported illnesses or spread to human hosts. Precautions are recommended for workers depopulating and euthanizing HP flocks in large barns. First signs of

symptoms for this potential population is respiratory problems and/or conjunctivitis, anti-viral drugs may be given as a precaution.

Are poultry products still safe to consume? Yes! Avian flu CANNOT be transmitted through safely handled and properly cooked poultry meat and/or egg products. The World Health Organization (WHO) has determined HP can survive in poultry, but keep in mind, HP flocks do not enter the food supply! If you notice a bird in your backyard flock has come down with the AI symptoms, do not consume that bird! Contact your local veterinarian and dispose of it as directed. Table eggs sold in retail markets are sanitized prior to human consumption. If you are raising/buying eggs that are locally sourced, ensure from the supplier they are being properly sanitized.

What do the next six months look like? The U.S. has the strongest surveillance program in the world. Unfortunately, this is not over yet and the impact on the poultry and egg industry is unknown. The number of cases will hopefully decrease over the summer as temperatures increase. However, the virus outbreaks may increase again in the fall as migratory birds go to fields to forage for grains.

What can I do to protect my flock? Biosecurity = risk management! Put as many procedures in place as possible to prevent the introduction of disease causing organisms into your barns and onto your farm.

- Increase the level of biosecurity!
- Bring birds indoors, get them away from open sources of water that other birds are drinking from or defecating in.
- Provide clean and sanitary water to your birds:
 - o If your flock is drinking from standing water sources, those water sources need to be completely blocked off so that small wild birds cannot access the water, thus potentially contaminating your flock.
 - o If you are not able to use clean well water, water from other sources will need to be sanitized before it is used or may cause disease outbreak.
 - o The AI virus will survive for longer periods of time in silt and mud in cool temperatures at the bottom of ponds (at 63° F, the virus will survive up to 100).
- Do not allow your birds to graze or be on pastures where wild birds have access.
- Limit traffic to your flock and your facility. If you are selling eggs or meat, consider meeting customers off your farm to decrease the potential for the AI virus to come to your farm.
- Only allow authorized personnel to be near your poultry. This may be just immediately family. Do not allow any unnecessary visitors.
- Determine if your personal biosecurity plan is strict enough. Do you have a sanitizing foot bath? Do you have a vehicle or equipment sanitizing plan?
- Do you have a plan for people to change clothes before and after working with or near poultry?
- If traveling out of state or to another poultry facility please use all good biosecurity precautions.
- New stock should only be introduced from sources you are sure are AI free and not from areas in or near an AI outbreak.
- If you are selling eggs: thoroughly clean and disinfect each egg prior to giving to the client. Only re-use clean cartons (no debris or dust).
- If you and/or your family have visited a state park or other common place where water fowl frequent, please use extra precaution on cleaning shoes, vehicles, clothes, or any equipment to ensure you do not infect your flock.

Sources:

Carver, Donna (2015). *Presenting avian influenza in backyard poultry flocks*. North Carolina Cooperative Extension Service. Found online at:

http://www.ces.ncsu.edu/depts/poulsci/tech_manuals/preventing_avian_influenza_backyard.pdf

Purdum, S. (2015 April). *H5N2 Avian Flu*. UNL MarketJournal. Found online at:

<https://www.youtube.com/watch?v=jUNX-ykPPZA&feature=youtu.be>

USDA: Animal and Plant Health Inspection Service. (2015 June). *Avian Influenza Disease*. Found online at:

http://www.aphis.usda.gov/wps/portal/aphis/home!/ut/p/a1/hY7LDoIwFET_qPfyEHAJkKhRIIdFEsBtTSKUoUfKJiX9vMW7V2U3mTGaAQQIs4I-24VOrBt7NnnnnNE9sK0Kb5hVqIc2Oe4yS2MKDY4CTAfCLQvzXL4C9kdU6TFx_azpuYCONTe4vd4jU-wA_JlJgTacqc7eIgl1uJkUzHwuHygkaYFpChBaaSHWfoNTkLriuJXlyqRSpVQ9jX-J1cSte_dDqQQ!/?1dmy&urile=wcm%3apath%3a%2Faphis_content_library%2Fsa_our_focus%2Fsa_animal_health%2Fsa_animal_disease_information%2Fsa_avian_health%2Fct_avian_influenza_disease

USDA: Animal and Plant Health Inspection Service. (2015 June). *Update on Avian Influenza Findings*.

Found online at:

http://www.aphis.usda.gov/wps/portal/aphis/ourfocus/animalhealth/sa_animal_disease_information/sa_avian_health/ct_avian_influenza_disease!/ut/p/a1/IVFdb4IwFP01e8RWioKP6j7AiSZm8ILuZRim0FLSjXRX7-ibnEPc9I9u_eeK5wPIKINSiXsxRaMUBKqbk-H2WwZuv0JdqOn1egBR4v3xziY-2QZehaQWAD-Zcb4J3_5HA07_guehPd9vCJoJVkUUmkaw1ECDRdtRpU0TJqsErkGfbjDLWRqp7NS0V172kCKGqqMM6gMv74UomXQskziUun6ZOL83guQ33hqLgcLq3ZMHuGL2llpqChQkrujEg9d5pCgD45Hc-LAAaOOYjKoqDUJ8S_mL_h7o_wTuYtZPo0Dj1_bgPzAhdH95buj2KMo-EFCCPFgUq3IcptV-uJFe8tOnt2wsYyJ8EWpZqVTDpd46o1aKN71qemvHcArISPqhol1oT_q8qRh1b_TGX2p-3ptVBXx9PYCm3AcKcrDm1uFnp-XxWKNjckbeq3OiAH56OMBTm-lvVLMv4EvlyfDg!/?1dmy&urile=wcm%3apath%3a%2Faphis_content_library%2Fsa_our_focus%2Fsa_animal_health%2Fsa_animal_disease_information%2Fsa_avian_health%2Fsa_detections_by_states%2Fct_ai_pacific_flyway

Wojcinski, H. (2015). *Avian Influenza: What you need to know*. Hybrid Genetics. Recorded presentation

found at: <https://www.youtube.com/watch?t=20&v=V323VfTGnn0>