

Biosecurity Measures While Handling Backyard and Chick Chain Poultry Amidst Ongoing Bird Flu Outbreaks

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Audience: Backyard poultry producers and 4-H chick chain youth

Don't let your birds comingle with waterfowl and wild birds

Deadly bird flu, also known as Highly Pathogenic Avian Influenza (HPAI), is caused by influenza Type A virus. There are several subtypes to this virus based on two viral surface proteins- hemagglutinin(H) and neuraminidase (N), and the current HPAI which is an ongoing outbreak is caused by the subtype H5N1. There are at least 16 forms of H and 9 forms of N. The current outbreak by strain H5N1 in birds was initially observed in Asia, Africa and Europe in late 2021 and then later swept to North America as the fall migration season commenced. The virus continued to spread across North America with migrating waterfowl and was first detected on the East Coast of Canada at the end of 2021 and in the United States (US) in January

2022. Since then, the virus outbreak has been observed all over the US throughout the year and affected more than 58 million domestic birds, both commercial and backyard flocks, across 47 states (APHIS, USDA, 2023).

Even though human cases are reported to be almost non-existent, it is important to remain cautious while interacting with domestic or wild birds, as there are multiple species of mammals reported to be infected with this virus resulting in illness, severe disease and death in some cases. While wild migratory waterfowl are considered the natural carriers of HPAI viruses, various wild scavengers including black vultures and bald eagles have been found to be infected with the current subtype. Numerous mass die offs of black vultures from dozens to hundreds were reported in different parts of the US in 2022, including poultry dense states such as Georgia, Florida, and Tennessee. It is also likely that many incidents of mortality of infected black vultures and other wild birds could go unnoticed affecting the total count of dead wild birds due to this virus. The HPAI virus is highly contagious due to its air borne nature and can quickly spread among bird populations through



Migratory waterfowl. Photo source: aphis.usda.gov

nasal and eye secretions, and infected droppings. Vultures are scavengers that feed on dead wildlife including waterfowl, and if they ingest the virus while feeding on infected birds, they could get sick and die. Additionally, black vultures can fly long distances, and the infected vultures pose a threat to other birds including poultry by shedding the virus at different locations through droppings or via direct comingling. Therefore, if you are a backyard chicken keeper, it is strongly recommended to rear the birds in confinement, particularly during the reported outbreaks of bird flu, to prevent your birds from encountering wild bird droppings, or any form of contact with black vultures or waterfowl species.

Backyard chicken keepers also include youth who are participating in the 4-H chick chain project. The chick chain project is a popular program in the US where youth develop poultry management skills, while raising healthy chickens, particularly layer hens that could go up to 20 weeks or longer. For Tennesseans, the information about the 4-H youth development chick chain program for 2023 can be obtained utilizing the following website <https://smith.tennessee.edu/2023-4-h-chick-chain/>. Amidst the ongoing avian influenza outbreak in wild and domestic birds, the only way to mitigate the spread of the disease is by following the farm biosecurity measures, as no medication or vaccination has been so far applicable to control this disease. Every 4-H'er and family involved in the chick chain should be highly cognizant of biosecurity measures and should firmly practice them while handling and managing their birds.



Black vulture feeding on the carcass of a dead skunk. Photo source: lancasteronline.com

Below are a few important biosecurity measures that 4 H'ers and household participating in chick chain or any producers keeping backyard chickens

should keep in mind during the ongoing avian flu outbreak as they take care of birds.

- **Do not provide opportunities for wild birds to comingling with your chickens.** By all means, if possible, rear the birds in confinement (enclosed run), while providing enough housing space. Have a narrow -mesh wire covering from all sides including the top of the run area, if birds are to have outside access. Cover the top to avoid any possible chances of wild bird droppings falling into the run area. Make the poultry house or coop wild bird and varmint-proof. Make sure to monitor housing routinely including the mesh wire in the run area for holes or for any potential damages so that timely repair can be initiated
- Clean and disinfect coop, crates, waterer, feeders, containers, and all other equipment that are in use for chickens on a regular basis, especially if anything leaves the farm and returns later.
- Do not mix your chick-chain birds with other birds, particularly ducks and geese.
- Put signage such as “no visitors” or “restricted area” at entry points to chicken access to maintain isolation.
- Wash your hands before and after visiting the birds and use a hand sanitizer.
- Designate personnel who will be involved in daily care and management of birds. Keep traffic flow (human, vehicular, and otherwise) to a minimum to reduce disease transmission risk.
- Wear disposable shoe coveralls and farm gear as you visit your birds if possible. Have a disinfectant footbath or footbath solution at the entry to the chicken area. Dip the bottom of your shoes to the solution during entry and exit of the chicken area/shed or coop. Change these footbath solutions frequently. Dry chlorine bleach works well as a foot bath and usually maintains effectiveness longer than liquid solutions.
- If you visit public parks where there are pools and ponds, never go check your birds directly as soon as you return home. It is likely that you have stepped on the wild birds' droppings. It is firmly advised to change or disinfect your shoes and clothes (at least) and take shower before seeing your chickens. If any members in the household are involved in waterfowl hunting, follow similar procedures for cleaning or changing clothes and taking shower before visiting your chickens.

- Provide daily clean fresh water. Sanitize water, if necessary, particularly if it has a non-municipal source.
- Buy feed from a trusted source and store the feed out of reach of wild birds and rodents.
- It is important that the poultry house be securely locked, even while working inside the coop.
- It is not advised to share equipment with neighbors or friends; if necessary, make sure to thoroughly clean and then disinfect the equipment by first removing any organic matter.
- Learn the disease signs of the birds, and report sick birds if necessary. Do not relocate the other healthy birds to a different location, house or flock. They have likely been exposed to whatever the sick bird has if they were housed together and moving them will risk spreading the disease. While handling sick birds, wear Personal Protective Equipment (PPE)- gloves, gown, mask, and eye covers.

Additionally, to keep the wild birds away, including waterfowl and vultures, and to secure your farm from avian influenza outbreak, adopt the following measures: i) make sure to cover farm waste including litter as it could attract wild birds including vultures ii) remove any standing water near your chicken houses, and be careful especially during times of heavy rainfall as water could pool; iii) spilled or unfinished feed in the chicken run

should be immediately cleaned; iv) restrict chicken feeding and watering inside the enclosed coop area. It is also a good idea to document everything you do at the farm for all the biosecurity measures and management practices taken. To obtain more information on avian influenza and biosecurity practices, visit the USDA’s Defend the Flock website often at <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/defend-the-flock-program>

Despite following all biosecurity measures, if many birds are sick and dying, report to either your local county agent, poultry specialists (University of Tennessee [931-486-2129] or Tennessee State University [615-963-2853]) or the state veterinarian’s office [615-837-5125] about the ongoing situation in your flock.

References:

- Distribution of Highly Pathogenic Avian Influenza in North America, 2021/2022. 2022. National Wildlife Health Center.
- 2022-2023 Detections of Highly Pathogenic Avian Influenza in Mammals. 2023. Animal and Plant Health Inspection Service. U.S. Department of Agriculture

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