

Avian Influenza Threat Requires Heightened Biosecurity Measures

What Does Biosecurity Mean?

Biosecurity means doing everything you can to prevent disease from entering your farm or poultry flock. “Bio” indicates life, and “security” means protection. **Biosecurity means protecting life**; in this case, the life of your poultry flock, regardless of whether you are a commercial producer or backyard enthusiast.

Biosecurity is the key to keeping your birds healthy. It is sound sanitary practices used to prevent an infectious agent from reaching a host. Biosecurity is all the steps you can take to reduce the chances of an infectious disease finding its way to your flock by way of people, animals, rodents, equipment, vehicles, or other means.

However, before understanding biosecurity and the reasoning behind it, you must first understand routes of disease transmission and the dynamics behind them. In most poultry flocks, there are two main pathways of disease transmission:

1. **Direct transmission** (physical contact between infected individuals and healthy, but susceptible, individuals).
2. **Indirect transmission** (the disease agent is carried to the susceptible individuals). The transport vehicle carrying the disease agent may take several forms, including:
 - human
 - feed
 - water
 - environment (contaminated pens, pastures, or water sources)
 - shared equipment
 - rodents and other vermin
 - pets

Highly pathogenic avian influenza (HPAI) is a viral disease that can infect wild birds (such as ducks, geese, and shorebirds) and domestic poultry (such as chickens and turkeys). HPAI can spread rapidly through domestic poultry flocks and quickly kill chickens and turkeys. Wild birds, however, can carry HPAI without showing symptoms and with little or no mortality. The best way to protect your birds from HPAI is to follow good biosecurity practices. Even if you are

well versed in biosecurity and the thought of reading another article on the topic makes your eyes glaze over, now is a critical time to verify you are doing all you can for your flock. **You are the best protection your birds have!**

Biosecurity Practices

Similar to transmission routes, biosecurity can be divided into two sets of practices. These include practices that attempt to:

1. Prevent direct transmission.

- Only acquire birds from **National Poultry Improvement Plan (NPIP) flocks** that are certified disease-free.
- **Quarantine birds for 30 days** if you purchase new birds or attend shows or fairs where your birds were in close proximity to other birds.
- **Do not mix** multiple species or multiple ages together, particularly if you raise both ducks and chickens.
- **Do not allow your flock to have contact with wild birds** (this may prove difficult if you free-range your birds).

2. Prevent indirect contact.

- Post **“No Visitors”** and/or **“Restricted Area”** signs at the road entrance to the farm.
- **Do not allow visitors** access to your flock, and **do not visit other poultry farms.**
- Have **clothing and footwear** dedicated only to working in and around your flock, and consider using disposable coveralls, plastic boots, and gloves.
- **All essential visitors** (owners, feed delivery personnel, catch crews, live haul drivers, service technicians, and so forth) should wear disposable coveralls, boots, and headgear before being allowed near the poultry flock or farm; multi-building farms should practice this between individual houses.

- **Monitor all vehicles** (service, feed delivery, chick delivery, live haul, and so forth) entering the farm to determine if they have been properly cleaned and disinfected. This includes disinfecting the tires and undercarriage.
- Maintain an effective **rodent control program** (rodents can carry numerous diseases).
- **Do not share equipment** with friends or neighbors.
- Purchase feed from a trusted source and **keep it safe from wild birds and rodents.**
- **Use foot baths and hand sanitizers.** Wash hands and arms thoroughly after caring for your flock.
- **Bird- and vermin-proof** your coops and pens.
- **Keep all poultry houses securely locked.** Lock all houses from the inside while working inside.
- **Properly dispose of dead birds** in an approved manner (composting, incineration, burial, or other approved method).
- **Hunters or anyone handling wild game** (especially waterfowl) must completely change clothing and shower or bathe before entering the flock area.

Commercial poultry producers should follow the recommended biosecurity practices put in place by their integrators. Any questions concerning the biosecurity program should be directed to your service technician. He/she can offer guidance and assistance related to keeping your flock safe. The U.S. Department of Agriculture has created six simple biosecurity steps that backyard enthusiasts and commercial producers can follow to lower the risk of disease entering their flocks:

1. **Keep your distance.** Restrict access to your property and your birds.
2. **Keep it clean.** Don't track something in on your clothes or shoes. Have clothes and shoes dedicated only to wear around your birds.

3. **Don't haul disease home.** If you go to the feed store, co-op, poultry supply store, café, etc., where other commercial producers or backyard enthusiasts may congregate, be aware that disease organisms can hitch a ride home on your vehicle tires or clothes and shoes. Clean and disinfect these items before going around your birds.
4. **Don't borrow disease from your neighbor.** Don't borrow or share tools and supplies with friends or neighbors. If you must share, clean and disinfect materials before they reach your property and again before you return them. Cleaning as a first step is critical because you cannot disinfect organic matter such as manure. **Clean, then disinfect!**
5. **Know the warning signs of infectious bird diseases:**
 - coughing, sneezing, watery eyes, nasal discharge, and gasping for breath
 - lethargy, depression, and decreased feed and water intake
 - swelling around the eyes, neck, and head
 - purple discoloration of the wattles, comb, and legs
 - watery or green diarrhea
 - drop in egg production or increase in soft- or thin-shelled and misshapen eggs
 - sudden increase in bird deaths in your flock
6. **Report sick birds.** If you suspect a problem, **say something immediately.** Don't wait for things to possibly get worse. Normal, everyday mortality is not AI, does not require reporting, and will only overwhelm authorities with chasing false leads. However, be aware that if mortality rates increase suddenly and drastically, you should inform the proper officials. Sick and dying birds should be submitted to a diagnostic laboratory for proper diagnosis of the problem. If you are a commercial producer, contact your service tech for guidance and assistance at the first sign of a potential disease issue. If you are a backyard producer, contact

- your local county Extension agent;
- your veterinarian;
- the MSU Poultry Science Department (662-325-3416); ask for a poultry Extension specialist; or
- the Mississippi Board of Animal Health (601-359-1170 or the animal disaster hotline at 1-888-722-3106).

Early reporting is critical to protecting the health of your birds and the Mississippi poultry industry.

Response Procedure

The United States has a strong avian influenza (AI) surveillance program currently in effect. Avian influenza response plans include the USDA working together with other federal and state officials and the U.S. poultry industry to implement a five-step process to deal with AI cases:

1. **Quarantine.** Restrict movement of poultry and poultry-related equipment into and out of the control area.
2. **Depopulate.** Humanely euthanize the affected flock(s).
3. **Monitor region.** Test wild and domestic birds in a broad area surrounding the quarantine zone.
4. **Clean and disinfect.** Kill the virus in the affected locations.
5. **Test.** Confirm that the poultry farm is AI virus-free before allowing repopulation.

These steps limit the exposure of healthy, noninfected flocks in order to help contain the disease. They ensure a secure food supply by humanely euthanizing infected flocks, thus removing them from circulation. The food supply remains safe; however, after leaving the store, poultry must be properly handled and **cooked to an internal temperature of 165°F** to avoid any potential problems or risks (this is true for all poultry all the time, not just in a disease outbreak situation).

Summary

Avian influenza has greatly heightened awareness of the need for strong biosecurity measures to protect the nation's poultry flocks. Attention to detail and a meticulous biosecurity program are essential to protecting your flock and those of others. Biosecurity is a simple concept, but avoid becoming complacent and overlooking or neglecting all the necessary steps it takes to keep your flock safe. It is the best defense you have against disease organisms entering your farm. Following all appropriate **biosecurity procedures will greatly reduce the threat from any disease.**

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