Poultry Growers Should Maintain Heightened Biosecurity Practices

MISSISSIPPI STATE UNIVERSITY EXTENSION

Because avian influenza (AI) was not a serious threat in the U.S. during the winter of 2015–16 does not mean poultry growers should relax their biosecurity programs. In fact, the avian influenza virus has been isolated in migratory waterfowl here in Mississippi, so we know the disease risk is here in our state. By early August 2016, Africa, Indonesia, and France were already reporting new avian influenza cases. In addition, in late August 2016, the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) confirmed the presence of H5N2 Highly Pathogenic Avian Influenza (HPAI) in a wild mallard duck from a state wildlife refuge near Fairbanks, Alaska. H5N2 HPAI has not been found in the continental U.S.—in either wild or commercial birds—since June 2015. Poultry growers across the U.S., and especially here at home in Mississippi, should remain on high alert and maintain the strictest of biosecurity programs heading into the fall, winter, and spring seasons of 2016–17. Let's review the importance of biosecurity and practices that growers should have in place to protect their flocks.

What Is Biosecurity?

Biosecurity refers to all the procedures used to prevent the introduction and spread of disease-causing organisms in poultry flocks. Biosecurity means doing everything you can to reduce the chances of an infectious disease, such as AI, infectious laryngotracheitis (ILT), Exotic Newcastle, and others, from being carried onto your farm by people, wild animals, pets, equipment, or vehicles. Just as important, it also means doing everything you can to reduce the chance of disease (should it occur on your farm) from leaving your farm. It is simply practicing the necessary steps to protect your birds and the birds of others from a serious disease threat. You cannot control how your friends and neighbors manage their biosecurity programs, but you can control your own program. Focus on making sure that you are not the weak link in the chain. If everyone does this, our chances of getting through another winter without an AI or ILT crisis will increase dramatically.

Even though AI may attract more attention nationally, growers should be as concerned—or perhaps even more so—about a possible ILT outbreak. Like AI, ILT is a reportable disease, and the effects of a serious ILT outbreak can be just as devastating as an AI outbreak. Locally, last winter and spring, there were numerous ILT outbreaks, especially for our neighbors in northwest Alabama. In almost all ILT cases, **the cause can be traced back to a failure in biosecurity**. This makes maintaining the highest level of biosecurity critically important going into fall and winter when temperatures cool down and AI and ILT will become greater threats.

Because of the concentration of commercial poultry flocks in certain geographic areas, combined with a heavy scattering of backyard poultry flocks, and the inherent disease risks associated with this type of situation, it is **critical that poultry producers practice daily biosecurity measures**. The threat of AI, ILT, Exotic Newcastle, and other reportable and non-reportable diseases can be reduced by developing and practicing daily biosecurity procedures and best management practices. Backyard flock owners should implement their own biosecurity programs. Contract poultry growers will have a set of specific practices developed by their integrator that they should become familiar with and work closely with their service technician and other company representatives to put into place. **Contract growers should check with their service technician or integrator before implementing a biosecurity program** to make sure the practices they are considering are consistent and/or agreeable with their integrator's established biosecurity program.

How Does Disease Spread?

The most common method of spreading disease from one poultry house to another or one farm to another is the use of contaminated equipment or exposure to contaminated clothing and footwear worn by humans. In addition, rodents and wild birds that have access to your poultry houses are also a disease threat. Clean-out or de-caking equipment shared by multiple growers is a constant disease risk. Make sure any shared equipment is cleaned and disinfected before leaving and before returning to your farm. In addition, integrators must take precautions with live-haul equipment, feed trucks, service vehicles, egg trucks, and egg flats and racks.

Human traffic may be the greatest threat to biosecurity. No one should be on your poultry farm without a good reason to be there. Essential visitors (equipment repair personnel, propane truck drivers, FedEx and UPS drivers, etc.) should wear **personal protective equipment (PPE)** including disposable coveralls, footwear, and headgear if they are anywhere near your flock. Visitors should never enter commercial poultry houses unless approved by integrator personnel. **Signage** should be located at the road (and perhaps at the chicken house) indicating that your farm is a disease-control area with restricted access. Consider keeping a **visitors log** so that you know who was on your farm and when. It is additional work to maintain a log, but it could be critical in tracking down the source of the problem should there be a disease outbreak.

Maintain a **rodent and pest control program** that includes sanitation, rodent-proofing, population reduction, and evaluating and monitoring the rodent and pest situation. Rodents (rats and mice) and insects (such as flies and darkling beetles) can carry and spread disease microorganisms. Have a rodent-control program in place that involves permanent bait stations and rotating rodenticides on a regular basis to avoid resistance buildup. Keep the area around the chicken houses clean and free of trash, old equipment, and other items that may offer homes or hiding places for rodents. Keep the grass and weeds mowed near the houses to prevent hiding places. Also rotate products used for darkling beetle control regularly (every two to three flocks) to prevent beetle resistance from occurring. Clean up any spilled feed near feed bins as this will attract unwanted wild birds, rodents, and insects.

Contract poultry growers should **avoid all contact with non-commercial poultry**, including backyard flocks, county and state fair poultry exhibits, chicken auctions and markets, poultry shows, and bird fanciers. Any non-commercial bird represents an extremely high-risk contact because often these birds are exposed to many different species and flocks of other birds, greatly increasing the disease risk. In addition, you have no way of knowing what any non-commercial bird may or may not have been vaccinated against.

Growers should **avoid any type of wild bird exposure**. Bird-proof your houses so that sparrows, starlings, and other wild birds cannot gain access to your flock. Avoid contact with waterfowl such as ducks and geese and game birds such as turkeys. If you have a farm pond, be aware of the potential of carrying droppings from waterfowl and other wild birds that visit the pond into your poultry houses. Wild birds, especially waterfowl, are well known to be carriers of avian influenza and other diseases. If you hunt waterfowl, take extra biosecurity precautions (i.e., stay away from your flock for 72 hours, shower and change out of your hunting clothes before returning home, disinfect your vehicle's tires and undercarriage before driving onto the farm).

Proper mortality disposal is vital to prevent the spread of infection and limit exposure to wildlife. Bin or alleyway composters are by far the most common mortality disposal method in Mississippi, and composters work well when managed properly. However, composters can be a source of disease spread and a breach in your biosecurity program when managed improperly. Proper mortality composting requires you follow a recipe. If the moisture content, carbon-to-nitrogen ratio (C:N), oxygen level, levels of bulking agent (or carbon source), and mortality are correct, the composting process works well. However, if one or more of these ingredients is inadequate, you will have issues getting the compost to reach adequately high temperatures to kill disease pathogens.

Compost should reach at least 130 degrees Fahrenheit to ensure that most disease-causing organisms will be killed. Temperatures less than 130 degrees may result in disease-causing organisms being transported from farm to farm by vultures, dogs, and any wild animals that visit improperly managed composters. More information on mortality composting can be found in MSU Extension Publication 2960 *Composting Poultry Mortality: A Critical Daily Management Chore* at ***http://extension.msstate.edu/sites/default/files/publications/publications/p2960.pdf***. Proper composter management and monitoring the composting process are important aspects of your overall biosecurity program. Do not neglect or take for granted these critical areas.

How Do I Keep My Birds Healthy?

The USDA has developed six simple steps that can help lower the risk of disease entering your flock:

1. *Keep your distance*. Isolate your birds from visitors and other birds.
2. *Keep it clean*. Prevent germs from spreading by cleaning boots and shoes, tools, and equipment.
3. *Don't haul disease home*. Change clothes before you visit your birds after going to town or visiting the feed store, co-op, poultry supply store, or other places where chicken growers tend to congregate or after hunting waterfowl. If your vehicle leaves the farm, disinfect the tires and undercarriage at the driveway before driving back to the chicken houses.
4. *Don't borrow disease from your neighbor*. Avoid sharing tools and equipment. If you do share, make sure it is cleaned and disinfected before it leaves and before it comes home.
5. *Know the warning signs of infectious diseases*:
   - coughing, sneezing, watery eyes, nasal discharge, and gasping for breath
   - swollen sinuses
   - decreased feed and water intake, depression, and lethargy
   - drop in egg production or an increase in thin- or soft-shelled eggs
   - watery or green diarrhea
   - purple discoloration of the wattles, comb, and legs
   - sudden increase in bird deaths
6. *Report sick birds promptly*. Do not wait for the problem to get worse.

If you are a contract commercial poultry or egg producer, you should contact your service technician or integrator for guidance at the first sign of a potential disease issue. Don't wait on your service technician to make his or her normal weekly visit. That visit might be several days away, and you can't afford to wait. Call immediately if you suspect something is wrong. If you are a backyard producer and you suspect a problem, contact one of the following:

- your local county Extension agent
- your local veterinarian
- the Mississippi Veterinary Research and Diagnostic Laboratory at Pearl (601-420-4700)
- a poultry Extension specialist in the Mississippi State University Poultry Science Department (662-325-3416)
- the Mississippi Board of Animal Health (601-359-1170 or animal disaster hotline 1-800-722-3106).

Should there be an avian influenza outbreak in Mississippi, the Mississippi Board of Animal Health, in conjunction with USDA, will implement a five-step plan to deal with the disease. This plan will limit the exposure of healthy, noninfected flocks in order to contain the disease as quickly as possible and continue to ensure a safe and secure food supply by humanely euthanizing the infected flock(s). The plan calls for the following steps:

1. **Quarantine**. Restrict movement of poultry/equipment into and out of the control area.
2. **Depopulate**. Humanely euthanize the affected flock(s), perhaps using a variety of methods, as quickly as possible to prevent disease spread.
3. **Monitor region**. Test wild/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 free of avian influenza virus before allowing repopulation.

Poultry is and will continue to remain safe to eat. Current cooking methods that are already recommended by the USDA and the FDA for poultry and eggs to prevent other infections will also destroy influenza viruses. It is recommended that poultry be cooked to 165 degrees Fahrenheit. This is true of poultry products all the time, not just in a disease outbreak situation. However, because of personal preference, some consumers may wish to cook poultry to a higher temperature, and that is fine.

For additional information, there are several publications related to avian influenza and poultry farm biosecurity that were produced last year by the Mississippi Board of Animal Health and Mississippi State University Extension Service. They are available online at the MSU Extension website (***extension.msstate.edu***) or on the front page

of the MSU poultry science department website (***www.poultry.msstate.edu***). These publications include:

- Avian Influenza Frequently Asked Questions

  http://extension.msstate.edu/sites/default/files/publications/information-sheets/is2013.pdf

- Avian Influenza: Things You Should Know

  http://extension.msstate.edu/publications/information-sheets/avian-influenza-things-you-should-know

- Avian Influenza Threat Requires Heightened Biosecurity Measures

  http://extension.msstate.edu/sites/default/files/publications/publications/p2898.pdf

- Biosecurity Measures to Combat Avian Influenza Threat

  http://extension.msstate.edu/sites/default/files/publications/information-sheets/is2015.pdf

- Highly Pathogenic Avian Influenza Biosecurity Checklist

  http://extension.msstate.edu/sites/default/files/publications/information-sheets/is2014.pdf

Summary

A strong biosecurity program in place on every poultry farm (commercial or backyard) in Mississippi is our best defense against AI, ILT, and other diseases. Poultry growers cannot let their guard down simply because there was not an avian influenza outbreak last winter. Not having an outbreak last winter does not guarantee that there won't be an outbreak this fall or winter or next spring. Growers must be vigilant and continue to maintain the same high level of biosecurity in the coming months that was in place last winter. It is easy to become complacent and lulled into a false sense of security, especially if several months go by and nothing really serious happens. However, it's usually when we become complacent that something serious does happen. Don't let it happen on your farm. Maintain a strong biosecurity program to keep your farm safe and your flocks healthy.

Publication 2995 (POD-08-16)

By Tom Tabler, Extension Professor, Poultry Science; Jim Watson, State Veterinarian, Mississippi Board of Animal Health; Brigid Elchos, Deputy State Veterinarian, Mississippi Board of Animal Health; and Jessica Wells, Extension Instructor, Poultry Science.

Copyright 2016 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi State University Extension Service.

Produced by Agricultural Communications.

We are an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law.

Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. GARY B. JACKSON, Director

MISSISSIPPI STATE UNIVERSITY™

EXTENSION