Biosecurity and Backyard Flocks

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What do you think of when you hear the term **Biosecurity?**

What is Biosecurity?

- Practices/procedures put in place to keep diseases away from birds, property, and people
  - **Structural Biosecurity**
    - Physical barriers to prevent the spread of diseases
      - Netting/Bird wire to keep wild birds out
  - **Operational Biosecurity**
    - Practices/procedures to prevent the spread of diseases
      - Having a pair of dedicated shoes that are only worn in your chicken house

Biosecurity Practices to Prevent Spread of Disease

- ❑ Purchase new birds for your flock from a clean source to limit possible disease exposure
  - Chicks can be ordered online through a hatchery and will be delivered directly to you
  - Purchasing chicks or adult birds from a local auction poses a risk of birds being exposed to disease prior to arriving at your farm
    - You also risk carrying disease on your shoes or clothes from an auction back to your farm
- ❑ Prior to adding new birds to your flock, implement an isolation period (typically 10-14 days or longer)
  - Observe new birds for any signs of illness or disease that could be spread to your existing flock
- ❑ Keep visitors to a minimum
  - Only allow those who take care of your poultry to come in contact with your flock

Biosecurity Practices to Prevent Spread of Disease (continued)

- ❑Provide disposable shoe covers for anyone coming in contact with your flock
- ❑Change your clothes/shoes before entering your bird area and before leaving your farm
- ❑Clean and disinfect any equipment (egg flats, etc.) that have been in contact with your flock before they leave your farm
- ❑Do not reuse items (cardboard egg flats) that cannot be cleaned and disinfected
- ❑Look for signs of illness in your flock (sudden mortality increase, nasal discharge, poor appetite, drop in egg production, lack of energy, swelling around head, neck, and eyes)
- ❑Remove any deceased birds from your flock ASAP and be sure to completely cover the carcass with organic material if you are composting

Why is Biosecurity Important to Backyard Flocks?

- Good biosecurity reduces the risk of infectious diseases coming onto your property and harming your flock

- Protects your neighbors who also have poultry

  *Backyard and Commercial Flocks

- Protects our commercial poultry industry from having to depopulate entire flocks of birds

- Impact on our economy

  February 2025→ 12 large eggs $5.97

What is Avian Influenza?

Avian influenza (AI), or "bird flu," is a contagious viral disease of domestic and wild birds

* It's a major threat to the poultry industry, animal health, trade, and the economy worldwide

AI viruses are classified by a combination of two groups of proteins

* H proteins (H1-H16) help the virus attach to/enter host cells

* N proteins (N1-N9) aid in the release of new virus particles from infected cells

AI viruses are further categorized indicating their ability to produce disease in poultry

* Low pathogenic

* High pathogenic

Low Pathogenic vs. High Pathogenic AI

- Low pathogenic AI vs. High pathogenic AI
  - Low Pathogenic or “low path” avian influenza (LPAI): LPAI occurs naturally in wild birds and can spread to domestic birds
  - Typically causes no signs of infection or only minor symptoms in birds
  - These strains of the disease pose little significant threat to human health

  - Highly Pathogenic or “high path” avian influenza (HPAI): HPAI is often fatal in chickens and turkeys
    - HPAI is extremely contagious and has a higher death rate in birds than LPAI
    - Various strains of HPAI continue to mutate and have become more fatal in wild birds than in previous years

How Does AI Spread?

- Directly→ bird to bird contact
  - Infected birds can shed AI virus in their saliva, nasal secretions, and feces

- Indirectly
  - Birds come in contact with contaminated surfaces or materials
  - Migratory waterfowl and wild birds
  - People are potential sources for introducing AI to a flock
    - Pick up virus on clothing/shoes/hands
  - AI can be moved in manure, egg flats/crates, or other farming materials and equipment

How Are Neighboring Poultry Farms Affected?

- If a commercial poultry premise tests positive for HPAI, a control zone is established surrounding the infected premise which directly impacts neighboring farms
  - Neighboring farms have a higher risk of disease
  - Movement restrictions for poultry and poultry products
  - Mandatory testing of poultry
  - Can impact market access and sales

Why depopulate HPAI positive flocks?

Infected birds shed highly contagious virus in saliva, nasal secretions, and feces

- HPAI can wipe out entire flocks within days and is a major threat to our poultry industry

HPAI can lead to significant economic losses for the poultry industry

Potential risk to public health with human infection

Depopulation helps mitigate these risks by removing the source of infection and controlling the spread of disease to other farms

Impact of HPAI Outbreak in U.S.

- Production Loss in U.S. (PA ranks 4th in the nation in egg production)
  - 12% of egg layer capacity was lost in 2024→ 6% still not fully populated
  - 8.65% of pullet and layer flocks were lost in the first 51 days of 2025
  - 14.65% of our capacity is not in production
  - If we continue to lose pullets and layers at the same rate as the past 8+ weeks, we will lose 61% of our flocks in a year
- Economic implications
  - 2015 outbreak→ estimated economic costs between $1- $2 billion
  - 2022 outbreak→ estimated economic costs between $2.5- $3 billion

  Pennsylvania Department of Agriculture estimates a major outbreak of HPAI in Pennsylvania could have an economic impact of $13 billion. Potentially affecting over 50,000 jobs and $3.2 billion in wages
- Disrupted food supply chain
  - Increased costs for consumers

Report Sick Birds/ Cows Immediately

- Contact PA Bureau of Animal Health and Diagnostic Services 24 hours a day, 7 days a week at 717-772-2852 option 1

- If you find sick or dead wild birds, do not touch the birds. Contact the PA Game Commission at 833-742-4868 or pgc-wildlifehealth@pa.gov

- Everyone who owns or works with poultry—whether you're part of a large commercial operation or raise birds as a hobby—needs to know the right steps to keep avian influenza and other diseases from entering the premises

- Making biosecurity an "every day, every time" practice is the best way to protect your birds

References

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