
AVIAN INFLUENZA



South Dakota
Animal Industry Board

Background Information

Avian Influenza (AI), an orthomyxovirus, also known as bird flu, is caused by a type A influenza virus. Worldwide, there are many strains of AI virus that can cause varying degrees of clinical illness in poultry.

Birds affected include:

- Chickens
- Turkeys
- Pheasants
- Quail
- Ducks
- Geese
- Migratory waterfowl
- Imported pet birds



AI viruses can be classified as either Low Pathogenic Avian Influenza (LPAI) or Highly Pathogenic Avian Influenza (HPAI) based on the severity of the illness they cause and/or by genetic analysis of the virus. Most AI virus strains are low pathogenic and typically cause little or no clinical signs in infected birds.

Some LPAI virus strains are capable of mutating under field conditions into a Highly Pathogenic AI virus strain. HPAI virus is an extremely infectious and often fatal form of the disease. It can strike poultry quickly and without warning signs. Once established, the disease can spread rapidly from flock to flock. It is essential for the U.S. poultry industry to be alert to this disease threat.

Symptoms

The symptoms of Avian Flu can vary greatly and range from undetectable to a mild drop in egg production to high death rates. Birds affected with AI may show one or more of these signs:

Sudden death without clinical signs

Lack of energy and appetite

Decreased egg production

Soft-shelled or misshapen eggs

Nasal discharge

Coughing, sneezing

Incoordination

Diarrhea

Swelling of the head, eyelids, comb, wattles, and hocks

Purple discoloration of the wattles, combs, and legs

How AI Virus is Spread

Exposure of poultry to migratory waterfowl and the international movement of poultry, poultry equipment, and people pose risks for the occurrence of HPAI in U.S. poultry.

LPAI and HPAI spread primarily through:

- Direct contact between healthy birds and infected birds
- Indirect contact with contaminated equipment
- Exposure to manure, equipment, vehicles, egg flats, crates
- People whose clothing or shoes have come in contact with the virus.

The virus is excreted through infected birds' feces and secretions from the nose, mouth, and eyes. AI viruses can remain viable at moderate temperatures for long periods in the environment and can survive indefinitely in frozen material.

aOne gram (3 / 100 oz.) of contaminated manure can contain enough virus to infect 1 million birds!

Prevention –What you can do to protect your birds.

The first line of defense against AI is proper biosecurity.

Biosecurity Measures on the Farm

Poultry producers should apply the biosecurity principles to prevent the introduction of AI into their flocks.

The following are some sound biosecurity practices:

- Keep an "all-in, all-out" philosophy of flock management.
- Protect poultry flocks from coming into contact with wild or migratory birds. Keep poultry away from any source of water that may have been contaminated by wild birds.
- Permit only essential workers and vehicles to enter the farm.
- Provide clean clothing and disinfection facilities for employees.
- Thoroughly clean and disinfect equipment and vehicles (including tires and undercarriage) entering and leaving the farm.

- Do not loan to, or borrow equipment or vehicles from, other farms.
- Avoid visiting other poultry farms, poultry shows and fairs. If you do visit another farm or live-bird market, bathe, change footwear and clothing before working with your own flock.
- Do not bring birds from slaughter channels, especially live-bird markets, back to the farm.
- Inform employees that they must not maintain backyard flocks at their home.
- Inform employees they must notify management if they visit exhibitions or sales involving any class of birds, hunt or visit migratory bird sites so proper biosecurity is assured.

Biosecurity Measures at Live-bird Markets

Producers and dealers must also use biosecurity precautions at live-bird markets. Once the virus is established in the market, the movement of birds, crates, or trucks from a contaminated market can spread the virus to other farms and markets.

These protective measures should be taken at live-bird markets to prevent the possible spread of disease:

- Use plastic instead of wooden crates for easier cleaning.
- Keep scales and floors clean of manure, feathers, and other debris.
- Clean and disinfect all equipment, crates, and vehicles before returning them to the farm.
- Keep incoming poultry separate from unsold birds, especially if birds are from different lots.
- Clean and disinfect the marketplace after every day of sale.
- Do not return unsold birds to the farm.
- Keep complete records of all birds handled

Disease Prevention Activities

The USDA, APHIS requires that all imported birds (poultry, pet birds, birds exhibited at zoos, and ratites) be quarantined and tested for this virus before entering the country. APHIS and State animal health officials work cooperatively with the poultry industry to conduct disease surveillance at breeding flocks, slaughter plants, live-bird markets, livestock auctions, and poultry dealers.

State and Federal Disease Surveillance Efforts

A pandemic of avian influenza among birds in Asia and Europe has prompted the United States to address the disease on three fronts. First, the U.S. is assisting with control and containment efforts in countries where the virus is present to help reduce the reservoir and prevent further spread of the disease.

Second, increased security measures have been implemented at ports of entry with regard to importation of live poultry, poultry products, and smuggling interdiction. Third, domestic poultry, gamebirds, waterfowl, shore birds, and migratory wild birds are being sampled for AI in a nation-wide effort including South Dakota. Both state and federal wildlife and animal health agencies are participating in this surveillance effort to provide early warning of highly pathogenic AI on U.S. soil.

Cleaning and Disinfecting

Allow only cleaned and disinfected equipment, vehicles, supplies and machinery entry to your site. Thoroughly inspect the items. Ask for documents to prove cleaning and disinfecting has been done. Inactivation of the virus is done with heat over 140 F for 30 minutes

and any of the following disinfectants will inactivate AIV when used at the manufacturer's recommended dilution rates and contact times:(allow to air dry)

Household bleach (1/100)

DC&R (1/128)

No-rinse Lysol (1/256)

Vikron-S, Tektrol, and Environ One-Stroke (1 /100)

All organic material should be removed from building and equipment surfaces prior to application of a listed disinfectant.

Treatment and Vaccination

There is no treatment for Avian Influenza. Vaccination is possible; however, not practical. Although vaccines may prevent clinical signs of AI infection in poultry, there are numerous subtypes of the virus and there is limited cross-protection between types.

Avian Flu and Other Animals

AI virus is a type A virus that affects all types of birds and waterfowl. Influenza A virus can also infect swine. Swine have been proposed as a “mixing vessel” for coinfection by influenza virus from birds and mammals, with reassortment of gene segments and development of hybrid strains having the ability to infect people and other mammals. Farms should separate swine and poultry. AI is not known to affect dogs, cats, cattle, horses, sheep or goats.



Testing

A blood test is used to determine if birds have been exposed to AI virus. If there has been exposure, the virus is isolated and special testing determines if the strain is LPAI or HPAI.

Potential Threat to Human Health

In some instances, HPAI viruses have been infectious to humans. Since mid–December 2003, at least 60 Asian, African, and European countries have reported outbreaks of HPAI in domestic and wild fowl. Particularly alarming is the HPAI strain of most of these outbreaks—H5N1—which has jumped the species barrier causing 150 human deaths. There has been no human to human transmission due to H5N1, and this strain remains a disease of birds.

Poultry and Poultry Product Consumption

Avian Influenza can survive in chilled/frozen meat and uncooked eggs. Always properly cook meat and eggs before consumption. Processed poultry products such as refrigerated/frozen carcasses or eggs pose a low risk to public health. Practice good hygiene during food preparation. The internal temperature of poultry meat products should reach at least 165F degrees during cooking.

Protecting Yourself

Poultry personnel and avian health care specialists should follow appropriate sanitary and disinfectant procedures while on any poultry premises. The following personal protective equipment: is recommended:

- √ Boots
- √ Coveralls
- √ Gloves
- √ Face masks
- √ Headgear

Additionally, use sanitizers on these items and provide time separation between visits to other poultry premises.





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