



Avian Influenza

Information from the
Texas Animal Health Commission
(TAHC) and the USDA's
Animal and Plant Health Inspection
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AVIAN INFLUENZA (AI): A Threat to U.S. Poultry

Worldwide, many strains of the avian influenza (AI) virus can cause varying amounts of clinical illness in chickens, turkeys, pheasants, quail, ducks, geese, and guinea fowl, as well as a wide variety of other birds. Migratory waterfowl are the natural reservoir for this disease.

AI viruses can be classified into low pathogenic (LPAI) and highly pathogenic (HPAI) forms based on the severity of the illness they cause. Most AI virus strains are LPAI and typically cause little or no clinical signs in infected birds. However, some LPAI virus strains are capable of mutating under field conditions into HPAI viruses.

HPAI is an extremely infectious and highly fatal form of the disease. The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) works to keep HPAI from becoming established in the U.S. poultry population.

HPAI can strike poultry quickly without any warning signs. Once established, the disease can spread rapidly from flock to flock. It is essential for U.S. poultry owners to be alert to this disease threat.

Clinical Signs

Birds infected by one of the many strains of the AI virus may exhibit one or more of these signs:

- **Sudden death without clinical signs**
- **Lack of energy and appetite**
- **Decreased egg production**
- **Soft-shelled or misshapen eggs**

- **Swelling of the head, eyelids, comb, wattles, and hocks**
- **Purple discoloration of the wattles, combs, and legs**
- **Nasal discharge**
- **Coughing, sneezing**
- **Incoordination**
- **Diarrhea**

Economic Impact of an HPAI Outbreak

A major outbreak of HPAI in 1983-84 in the northeast cost nearly \$65 million to eradicate. More than 17 million birds were destroyed and retail egg prices increased by more than 30 percent.

Introduction and Spread of HPAI Virus

An outbreak of low-pathogenic AI severely hampers a state's ability to move poultry and poultry products, while a high-pathogenic AI outbreak will impact the entire country's ability to trade with countries who import U.S. poultry, and poultry and egg products.

In early 2004, an outbreak of the H5N2 strain of HPAI occurred in one flock near Gonzales, Texas. To determine if the disease had spread, and to ensure the outbreak was eradicated, a task force of TAHC and USDA veterinarians, animal health inspectors and support personnel tested and retested noncommercial flocks within a 30-mile area for more than four weeks. In

commercial flocks, disease surveillance was heightened, and samples also were submitted for testing at the Texas Veterinary Medical Diagnostic Laboratory (TVMD) in Gonzales and College Station, or to the National Veterinary Services Laboratory (NVSL) in Ames, Iowa.

Fortunately, the disease had not spread to other flocks and was eradicated in the area. Nevertheless, nearly 40 countries placed embargoes on poultry, and poultry and egg products from Texas, and in some cases, the entire U.S. To regain trading status, USDA trade negotiators met with the importing countries to encourage the reopening of borders.

AI Affects Trade

The movement of poultry, equipment and people has increased the risk of introducing AI into flocks. Birds exposed to migratory waterfowl also are at increased risk for contracting the virus.

Once introduced into a flock, AI can be spread from bird-to-bird by direct contact, or by mechanical transmission via manure, equipment, vehicles, egg flats and crates. Employees and visitors can also carry the virus on contaminated clothing and shoes. **Just one gram of contaminated manure can contain enough virus to infect 1 million birds!**

In moderate temperatures, AI viruses remain viable for long periods. In a frozen product or environment, the viruses can survive indefinitely.

Biosecurity Measures on the Farm

Poultry producers should always follow sound biosecurity practices 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.
- Thoroughly clean and disinfect equipment and the tires and undercarriages of vehicles entering or leaving the farm.
- Do not loan or borrow equipment or vehicles from other farms.
- Allow only essential workers and vehicles to enter the farm.
- Provide clean clothing and disinfection facilities for employees.

- 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.
- Avoid visiting other poultry farms. If you must go to another farm or to a live-bird market, change footwear and clothing before working with your own flock.

Biosecurity Measures for Live-Bird & Flea Markets

To prevent an outbreak of AI, poultry producers and dealers should practice adequate biosecurity at the live-bird markets, flea markets and other locations where live poultry are sold. Avian influenza viruses can be introduced into these locations via infected birds, or on contaminated crates, trucks or equipment.

Once established, the disease then can quickly spread, as birds and equipment are transported from the point of sale to farms or to other market settings.

Protective measures should be taken to prevent the possible spread of disease:

- For easier cleaning, use plastic, not wooden crates.
- Keep the facility, scales and area free of manure, feathers, and other debris that could harbor viruses.
- Clean and disinfect all equipment, crates, and vehicles prior to taking them to a premise after being at a location where poultry is sold.
- Maintain newly procured poultry separately from other birds, especially if the poultry originate from different lots.
- Clean and disinfect the marketplace each day after the sale is completed.

Report Suspicious Signs!

Don't wait! If your birds exhibit unusual death loss or signs of illness, call your private veterinary practitioner or the TAHC hotline at 1-800-550-8242 immediately! A TAHC or USDA veterinarian is on call 24 hours a day to take reports and assess the situation.

A foreign animal disease diagnostician may be dispatched at no cost to you to work with your private practitioner to collect samples for laboratory testing and begin a disease investigation.