



# Highly Pathogenic Avian Influenza

Information from the  
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(TAHC) and the USDA's  
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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 a HPAI 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

International movement of poultry, equipment and people has increased the risk of introducing HPAI into the U.S. Birds exposed to migratory waterfowl are at increased risk for contracting the avian influenza virus.

Once introduced into a flock, HPAI 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, HPAI viruses remain viable for long periods. In a frozen product or environment, the viruses can survive indefinitely.

## Potential Danger to Human Health

Of all the strains of HPAI virus ever isolated, only one has been shown under natural conditions to be infectious to people.

The H5N1 strain isolated in Hong Kong in 1997 was highly pathogenic for chickens and caused a limited outbreak involving 18 persons. As of January 2003, there has been no documented appearance of this virus outside of Hong Kong.

While infection of people can be considered a rare event, poultry personnel should wear adequate safety equipment, such as boots, coveralls, gloves, face masks, and headgear, and follow appropriate biosecurity procedures when on premises known or suspected to be infected with HPAI.

## Biosecurity Measures on the Farm

Poultry producers should always follow sound biosecurity practices to prevent the introduction of HPAI 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.
- Do not bring birds to the farm unless you know the health status of the flock of origin.

## Biosecurity Measures for Live-Bird & Flea Markets

To prevent an outbreak of HPAI, 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.

## Disease Prevention & Surveillance

As the country's official "gatekeeper" for animal imports, the U.S. Department of Agriculture (USDA) requires that all imported birds (poultry, pet birds, birds exhibited at zoos, and ratites) be quarantined and tested for HPAI virus before entering the country.

Many USDA and state veterinarians have received special training to diagnosis foreign animal diseases. These veterinarians conduct field investigations and collect tissue and blood samples when there is suspicious death loss or widespread illness of birds or livestock.

Federal and state animal health officials also work cooperatively with the poultry-owning public to conduct surveillance of breeding flocks, and at slaughter plants, live-bird markets, livestock auctions, flea markets and poultry dealers' operations.

### Report Suspicious Signs!

Don't wait! If your birds exhibit clinical signs indicative of HPAI, or if they may have been exposed to the virus, notify the Texas Animal Health Commission (TAHC) immediately, so a disease investigation can be conducted. A TAHC or USDA veterinarian trained in foreign animal disease diagnostics can be reached at 1-800-550-8242, 24 hours a day, seven days a week.