

*As part of the President's National Strategy for Pandemic Influenza, which includes both avian influenza and human pandemic preparedness, the U.S. Department of Agriculture (USDA) is working with its partners on the international and domestic fronts to help control the spread of high-pathogenicity H5N1 avian influenza.*

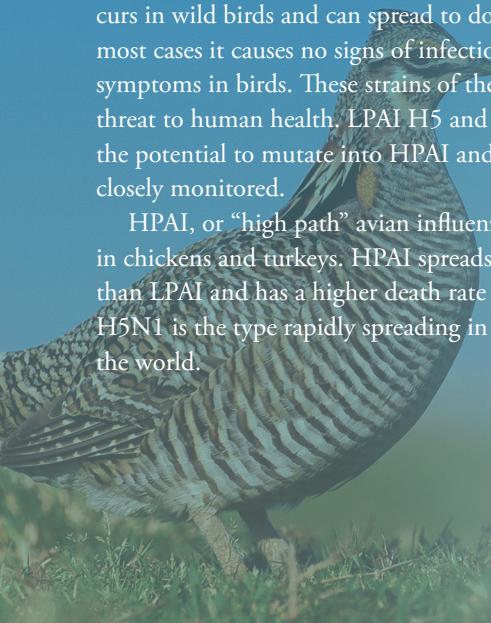
## What is avian influenza?

**A**avian influenza (AI)--the bird flu--is a virus that infects wild birds (such as ducks, gulls, and shorebirds) and domestic poultry (such as chickens, turkeys, ducks, and geese). There is a flu for birds just as there is for humans and, as with people, some forms of the flu are worse than others.

AI viruses are classified by a combination of two groups of proteins: the hemagglutinin or H proteins, of which there are 16 (H1-H16), and neuraminidase or N proteins, of which there are 9 (N1-N9). AI strains also are divided into two groups based upon the ability of the virus to produce disease in poultry: low-pathogenicity avian influenza (LPAI) and high-pathogenicity avian influenza (HPAI).

LPAI, or "low path" avian influenza, naturally occurs in wild birds and can spread to domestic birds. In most cases it causes no signs of infection or only minor symptoms in birds. These strains of the virus pose little threat to human health. LPAI H5 and H7 strains have the potential to mutate into HPAI and are therefore closely monitored.

HPAI, or "high path" avian influenza, is often fatal in chickens and turkeys. HPAI spreads more rapidly than LPAI and has a higher death rate in birds. HPAI H5N1 is the type rapidly spreading in some parts of the world.



## How can people become infected with avian influenza?

Although the HPAI H5N1 virus does not usually infect people, more than 200 human cases have been reported since 2004. Most people who have become sick or died from HPAI H5N1 have had extensive, direct contact with infected poultry. Broad concerns about public health relate to the potential for the virus to mutate, or change into a form that could easily spread from person to person, a characteristic that could result in a human influenza pandemic. There is no evidence that this is occurring. Strains of AI that have been detected in U.S. poultry, including LPAI and HPAI, have caused no known human illnesses.

## USDA has experience responding to and eradicating HPAI.

HPAI has been detected three times in U.S. poultry: in 1924, 1983, and 2004. No human illness resulted from any of these outbreaks.

The 1924 HPAI H7 outbreak was contained and eradicated in East Coast live bird markets.

The 1983-84 HPAI H5N2 outbreak resulted in humanely euthanizing approximately 17 million chickens, turkeys, and guinea fowl in Pennsylvania and Virginia to contain and eradicate the disease.

In 2004, USDA confirmed an HPAI H5N2 outbreak in chickens in Texas. The disease was quickly eradicated thanks to close coordination and cooperation between USDA and State, local, and industry leaders.

## USDA efforts to protect the United States.

**Import restrictions:** USDA quarantines and tests live birds imported into the United States to ensure that they do not have any foreign animal diseases such as the HPAI H5N1 virus.

All imported live birds (except from Canada) must spend 30 days at a USDA quarantine facility where they are tested for the AI virus before entering the country. Returning U.S.-origin pet birds (except from Canada) also are tested and are home-quarantined.

USDA maintains trade restrictions on the importation of poultry and poultry products originating from countries and/or regions where the HPAI H5N1 strain has been detected in commercial or traditionally raised poultry. USDA regulations require that import permits accompany properly sanitized poultry products, such as raw feathers.

Additionally, USDA has increased its monitoring for illegally smuggled poultry and poultry products through an anti-smuggling program in coordination with the U.S. Department of Homeland Security - Customs and Border Protection.

**International assistance:** USDA is working closely with international organizations such as the World Organization for Animal Health (OIE), the United Nations Food and Agriculture Organization (FAO), and the World Health Organization to assist HPAI-affected countries and other countries with disease prevention, management, and eradication activities. By helping these countries prepare for, manage, and eradicate HPAI outbreaks, USDA can help to slow the spread of the virus. Some efforts include:

- Training sessions for veterinarians and poultry disease experts from H5N1-affected and at-risk countries to teach testing protocols.
- Professional expertise and funding to help the FAO in Rome develop a new Crisis Management Center, to respond rapidly and effectively to avian influenza outbreaks in poultry worldwide.
- Assistance to H5N1-affected countries, including laboratory equipment, reagents, and sample shipping containers to bolster AI testing and diagnostic programs.
- In collaboration with FAO and OIE, USDA has deployed expert scientists, veterinarians, and animal health emergency managers to H5N1-affected countries to test and diagnose AI; advise on surveillance and vaccination programs to protect poultry; and advise on emergency contingency plans.

**Surveillance:** USDA works with Federal and State partners and industry to monitor U.S. bird populations. Surveillance is conducted in four key areas: live bird markets, commercial flocks, backyard flocks, and migratory bird populations.

Extensive testing occurs in live bird markets and commercial flocks. Additionally, birds that show signs of illness are tested.

Through a backyard flock biosecurity program, USDA encourages backyard and small poultry producers to strengthen biosecurity practices in order to prevent the introduction of AI into their flocks. Biosecurity refers to practical management practices that help to prevent diseases.

USDA recommends that owners of backyard flocks follow these six tips to prevent poultry disease:

- keep your distance (restrict access to your property and your birds);
- keep it clean (clean and disinfect your clothes, shoes, equipment, and hands);
- don't haul disease home (if you have been near other birds or bird owners, clean and disinfect poultry cages and equipment before going home);
- don't risk disease from your neighbor (do not borrow lawn and garden equipment, tools, or poultry supplies from other bird owners);
- know the warning signs (sudden increase in bird deaths, sneezing, coughing, nasal discharge, watery or green diarrhea, lack of energy, poor appetite, drop in egg production, swelling around the eyes, neck, and head, and purple discoloration of wattles, combs, and legs); and
- report sick birds (call your local or State veterinarian, or USDA toll-free at 1-866-536-7593).

## USDA is ready to act.

USDA works closely with its Federal, State, and tribal partners, as well as industry stakeholders, to coordinate emergency response to animal disease outbreaks, including AI.

USDA provides expertise, funding, and support personnel to States when LPAI is detected. Close attention is paid to LPAI H5 and H7 strains, because of their potential to mutate into HPAI. When HPAI is detected, USDA and State personnel are primary responders because of the rapid spread and high death rate among poultry.

In the event of an HPAI outbreak in the United States, USDA would work with States and industry to respond quickly and decisively following these five basic steps:

- **Quarantine** – restrict movement of poultry and poultry-moving equipment into and out of the control area;
- **Eradicate** – humanely euthanize;
- **Monitor region** – broad area of testing;
- **Disinfect** – kills virus; and
- **Test** – confirm that the poultry farm is AI virus-free.

USDA also maintains a bank of AI vaccine that could be used to protect healthy birds outside a control area, if necessary.

# Avian Influenza

## Protecting the United States

USDA Preparations and Response



### Expanded wild bird testing serves as an early warning system.

USDA has been testing wild migratory birds for HPAI H5N1 since 1998 in both Alaska and the Atlantic flyway and has worked with Federal, State, and academic partners to enhance testing and develop a national strategic plan for the early detection of HPAI H5N1.

The wild bird plan targets those bird species in North America at the highest risk because of their migratory patterns. Key species of interest include ducks, geese, and shorebirds. USDA and its partners plan to collect approximately 100,000 samples from wild birds as well as 50,000 samples from waterfowl habitats across the United States annually.

The wild bird plan recommends a prioritized sampling system, with emphasis first in Alaska, the Pacific flyway, and on the Pacific islands, followed by the Central, Mississippi, and Atlantic flyways. It also establishes protocols for testing and tracking the data.

### USDA researchers are recognized avian influenza experts.

USDA researchers at the Southeast Poultry Research Lab focus on identifying the source of AI viruses, and how they change and cause disease. These experts have developed and continually improve rapid diagnostic screening tests that have been shared with a network of over 45 USDA-approved animal health labs throughout the United States as well as other countries. They also have developed and improved poultry vaccines. USDA also partners with universities on AI research, education, and extension projects.

USDA's National Veterinary Services Laboratories (NVSL) in Ames, Iowa, is the only internationally recognized AI reference laboratory in the U.S. Although a network of laboratories across the Nation are approved to conduct AI screening tests, all confirmatory AI testing in the U.S. is conducted by NVSL.

### USDA is committed to transparency.

Delivering factual, timely information is a priority for USDA. In the event that a USDA screening test, which provides only presumptive results, indicates a possible presence of H5N1 in a bird, the public will be notified. Confirmatory testing would then be conducted by USDA, with results expected within 5-10 days, and those results also would be shared with the public in a timely fashion, regardless of the AI strain identified.

### Properly prepared and cooked poultry is safe to eat – you have the power to protect yourself.

Eating properly handled and cooked poultry and eggs is safe. Cooking poultry to an internal temperature of 165 °F kills the AI virus as it does other bacteria and viruses. Cooking eggs until they are firm throughout kills the AI virus.

AI is not transmissible by eating properly prepared poultry. If HPAI were detected in the United States, the chance of infected poultry or eggs entering the food chain would be extremely low because of the rapid onset of symptoms in poultry as well as the safeguards in place, which include testing of flocks, and Federal inspection programs.

Cooking poultry, eggs, and other poultry products to the proper temperature and preventing cross-contamination between raw and cooked food is the key to safety. You should:

- Wash hands with warm water and soap for at least 20 seconds before and after handling raw poultry and eggs;
- Prevent cross-contamination by keeping raw poultry and eggs away from other foods;
- After cutting raw meat, wash cutting board, knife, and countertops with hot, soapy water;
- Sanitize cutting boards by using a solution of 1 tablespoon chlorine bleach in 1 gallon of water; and
- Use a food thermometer to ensure poultry has reached the safe internal temperature of at least 165 °F to kill foodborne germs that might be present, including the AI viruses.



### More information

USDA efforts to protect against and respond to bird flu: [www.usda.gov/birdflu](http://www.usda.gov/birdflu)

**Report Sick Farm Birds:** If your farm birds are sick or dying, call USDA's Veterinary Services toll-free at 1-866-536-7593, or your State Veterinarian or local extension agent.

**Report Dead Wild Birds:** Dead wild birds can be reported to State or Federal wildlife agencies. Information on how to make contact with wildlife officials in your State is available at [www.usda.gov/birdflu](http://www.usda.gov/birdflu)

**Safe Food Preparation:** USDA Meat and Poultry Hotline - 1-888-MPHotline (1-888-674-6854), TTY: 1-800-256-7072 (available in English and Spanish). Online answers are provided at [www.fsis.usda.gov](http://www.fsis.usda.gov) by clicking on "Ask Karen."

Current Listing of Countries/Areas Affected with HPAI H5N1: [www.usda.gov/birdflu](http://www.usda.gov/birdflu)

U.S. Government efforts to protect human health: [www.pandemicflu.gov](http://www.pandemicflu.gov)

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