Avian Influenza (Bird Flu)
Responses to Questions from the General Public

What is avian influenza?

Avian influenza (AI), commonly called bird flu, is a disease found naturally among wild aquatic birds worldwide and can infect poultry and other bird and animal species.

Influenza is characterized by two groups of surface proteins known as hemagglutinin (H) and neuraminidase (N). There are 18 different types of hemagglutinin proteins (H1-H18) and 11 different types of neuraminidase proteins (N1-N11), resulting in 198 possible subtypes, many of these affecting birds.

AI viruses can be classified into low and high pathogenicity forms based on the severity of the illness they cause in poultry. Most strains are classified as low pathogenicity AI (LPAI) and typically cause little or no clinical signs in poultry. In contrast, high pathogenicity AI (HPAI) causes a severe and extremely contagious disease. While LPAI is considered a lower risk, some LPAI H5 and H7 types have the capacity to mutate into HPAI.

What are the clinical signs of AI in birds?

- **Low Pathogenic AI Signs** - Nasal or eye discharge, swelling below the eyes, difficulty breathing, and decreased appetite/water intake.
- **Highly Pathogenic AI Signs** - Bleeding, bruising, bluish/swollen combs or wattles, a significant drop in egg production, and sudden death with mortality rates that can approach 100% in a flock. When poultry are infected with HPAI, they may die before they show any symptoms.

How is the disease spread?

Migratory waterfowl have been found to be carriers of recent AI virus strains in poultry. Influenza primarily spreads by contact between healthy and infected birds and through contact with contaminated equipment and materials. The virus is shed in the feces and in secretions from the nose, mouth, and eyes. Contact with infected fecal material is the most common method of bird-to-bird transmission.

The AI virus can spread in the air between birds in a poultry house and between poultry premises with the movement of contaminated equipment, or by people carrying the virus on their shoes, clothes, or hands. It can also spread to other flocks on unwashed eggs.

Does LPAI/HPAI exist in the United States (U.S.)?

Incidents of LPAI are occasionally detected in domestic poultry. In early 2015 and for the first time in over ten years, multiple incidents of HPAI (H5N8 and H5N2) were found in migratory waterfowl, backyard flocks, and commercial poultry flocks in the U.S. Commercial poultry flocks were affected in California and some Midwest states (e.g. Missouri and Minnesota).

Does AI affect pet birds (e.g. parrots, parakeets)?

Although it is rare, AI infection is possible in some pet birds if they come into contact with infected birds.

What should you do if your birds have signs of AI?

If your birds have signs of AI, or may have been exposed to birds with the disease, you should immediately notify your local veterinarian, the Sick Bird Hotline, local California Department of Food and Agriculture (CDFA) District Office, or the United States Department of Agriculture (USDA) Veterinary Services.

To report an unusual number of sick or dead birds, call:
Sick Bird Hotline
(866) 922-2473

How is AI diagnosed in birds?

Swab samples taken from the throat and/or the cloaca, blood samples, and sick or dead birds are sent to a USDA-approved laboratory. The California Animal Health and Food Safety (CAHFS) Laboratory system with facilities in Davis and San Bernardino, Tulare, and Turlock, are the primary laboratories used in California. If a screening test is positive, the samples are sent for confirmatory testing at the National Veterinary Services Laboratory (NVSL) in Ames, Iowa. The final analysis determines if the strain is HPAI or LPAI.

What will happen if your birds are confirmed positive for AI?

If birds are confirmed positive, CDFA and USDA personnel will work with you to eradicate the disease and depopulate the flock if necessary.

www.cdfa.ca.gov

How are birds monitored for AI?
CDFA, USDA, county cooperative extensions, veterinarians, poultry business and bird enthusiasts collaborate to ensure that various populations of birds are tested for AI to detect any incursion as soon as possible.

CDFA and USDA veterinarians are trained to diagnose foreign animal diseases, such as AI, and investigate any suspicious diseases. This effective surveillance relies on close communication between veterinarians and farm personnel. Animal health officials also screen birds for HPAI where live birds are sold, such as at live bird markets, feed stores, pet stores, and swap meets.

The California Department of Fish and Wildlife (CDFW), Federal wildlife agencies and universities collaborate to survey wild birds in a national wildlife surveillance plan.

Does AI threaten human health?
Some strains of AI viruses can infect people having close, direct contact with infected birds. The potential for the virus to mutate info a form that spreads from person-to-person is a serious public health concern. Since December 2003, a growing number of Asian, European, and African countries have reported outbreaks of HPAI and the rapid spread of HPAI is historically unprecedented and of growing concern for human and animal health.

> **There is no immediate public health concern associated with the strains recently found in the United States.**

Does proper food handling prevent AI?
Ongoing surveillance and mandatory inspections prevent diseased poultry from entering the food chain. Proper handling and cooking of poultry and eggs protects people against the virus. Poultry and egg products imported to the U.S. must meet all safety standards applied to foods produced in the U.S.

> **Poultry and eggs that have been properly cooked to internal temperature of 165°F are still safe to consume.**

Is there an AI vaccine available in California?
No, an AI vaccine is not available or approved for use in the State of California. Although AI vaccines can be found in other parts of the world, they are not commonly used because no vaccine covers all the strains of the disease.

What can poultry producers and backyard flock owners do to prevent AI?
Poultry producers and backyard flock owners should strengthen their biosecurity practices. Biosecurity includes any practice that can reduce the risk of introducing disease to a premises.

To be effective, biosecurity must be practiced diligently at all times, without exception, by everyone that comes in contact with the premises. Here are some important tips:
- Discourage waterfowl from using ponds on your property and consider draining these, if feasible.
- Keep poultry confined in houses and/or enclose an exercise area with netting.
- Avoid use of water that comes from sources where waterfowl may congregate during migration.
- Avoid waterfowl hunting; otherwise, ensure clothing, footwear, vehicles, etc. used during hunts are laundered and/or disinfected.
- Do not co-mingle poultry (e.g. chickens) with waterfowl (wild or domestic).
- Do not share birds, equipment, or feed with other bird owners.
- Avoid visits to other backyard flocks or poultry operations and restrict access to your birds.
- If visitors are necessary, provide disposable coveralls, boots, and head coverings.
- Scrub and remove all debris from your footwear, giving particular attention to the soles, with soap and water and spray with a disinfectant.
- Consider using a disinfectant foot bath with a scrub mat at the entrance to your bird area.
- Thoroughly clean and disinfect (C&D) vehicles and equipment entering or leaving the premises.
- Protect flocks from exposure to wild birds, rodents, and insects.
- Control movement associated with the disposal of mortality, litter, and manure.
- Isolate and observe new flock additions and returning show birds off-site for 14 days for signs of disease.

> **CDFA Animal Health Branch**
> Headquarters - (916) 900-5002
> Redding District - (530) 225-2140
> Modesto District - (209) 491-9350
> Tulare District - (559) 685-3500
> Ontario District - (909) 947-4462
> **USDA-APHIS-VS** (916) 854-3950 or (877) 741-3690

> For more information, please visit:
> www.cdfa.ca.gov/ahfss/animal_health
>
> Avian Health Program
> Avian Influenza Web Page