

Avian Influenza 2017: *Frequently Asked Questions*



What is avian influenza (AI)?

AI is a highly contagious viral disease of birds caused by infection with avian (bird) influenza Type A viruses. These viruses occur naturally worldwide in wild aquatic birds (especially waterfowl, which are rarely affected by the virus) and can be passed to domestic poultry, such as chickens and turkeys, with devastating effects. Influenza A viruses have many different subtypes and are named for two types of proteins on the virus surface. These proteins are referred to as hemagglutinin (H) and neuraminidase (N). There are at least 16 forms of H and 9 forms of N in birds, designated by numbers (for example, H7N9 or H5N2). AI has an incubation period of 3–7 days, depending on the viral dose, poultry species affected, and route of exposure. **Avian influenza in any of its forms is a serious threat** to both the commercial poultry industry and backyard poultry keepers.

What is the difference between low-path and high-path avian influenza?

Avian influenza viruses are divided into two groups—low pathogenic (LPAI) and high pathogenic (HPAI)—based on the ability of the virus to produce disease, the severity of the illness, and the rate of mortality it can cause.

- **HPAI** spreads rapidly through a flock and has a very high death rate. HPAI is an extremely infectious and fatal form of AI that generally kills 95–100 percent of an infected flock.
- **LPAI** is less severe and causes only minor illness in domestic poultry and occurs naturally in migratory waterfowl; however, there is concern because some LPAI viruses are capable of mutating into HPAI viruses. Therefore, both HPAI and LPAI cases are taken very seriously by state and federal officials and the commercial poultry industry.

Can avian influenza affect humans?

Avian influenza viruses do not usually infect humans. The risk of contracting AI from birds is very low; however, there have been rare sporadic cases where human infections with avian viruses have occurred. These cases were typically the result of very close physical contact with infected birds or with the secretions and feces of infected birds. The 2017 strain of AI in Alabama and Tennessee (low path and high path H7N9) did not cause illness in humans.

Are poultry and eggs safe to eat?

Poultry and eggs are safe to eat if cooked properly. No meat or eggs from infected flocks will ever enter the food supply. All commercial poultry flocks in the U.S. are tested for avian influenza virus at the farm before being processed. Cooking methods already recommended by the USDA and FDA for poultry and eggs to prevent other infections will destroy the avian influenza virus. It is recommended that poultry be cooked to at least 165°F. This is true for all poultry all the time, not just during a disease situation. As a matter of personal preference, consumers may wish to cook poultry to a higher temperature.

Where and how does avian influenza start and move through the environment?

Numerous migratory bird species (especially waterfowl) that may carry the AI virus use the same breeding grounds in northern North America and Siberia. Species from North America and Asia often come along on these breeding grounds, providing opportunity for AI viruses of different types to move between birds or even coexist in the same bird. These birds can then carry the virus long distances as they migrate because the virus is usually not pathogenic to waterfowl or other migrating species. As these wild birds fly south in the winter and north in the spring, their flyways take them over much of the U.S., where they can shed the virus along the way. The 2017 AI strain (H7N9) in Tennessee and Alabama was known to officials and was of North American origin. It was not a new strain.

AI viruses are shed in the feces and respiratory secretions of infected birds. The fecal–oral and respiratory transmission routes can rapidly spread the virus throughout a poultry flock, regardless if the flock is a five-bird backyard flock or a 50,000-bird commercial poultry house. Clothes, shoes, shared equipment, and vehicles can pick up the virus from the environment and must be considered possible transmission routes. Walking through fecal material before entering the chicken house or pen should be considered a highly likely transmission route. It is crucial to disinfect footwear before entering the poultry house or pen or wear disposable footwear covers. Also, use hand sanitizer before entering and after leaving the chicken house or pen.

Can AI be prevented?

There is **no treatment or cure once birds have become infected** with avian influenza. Therefore, a strong biosecurity program is the best defense against contracting avian influenza. We cannot control where migratory waterfowl fly, and we cannot prevent them from carrying the AI virus with them and depositing it wherever they go; however, we can put in place effective biosecurity practices, prevent contact between domestic birds and wild birds (especially waterfowl), and immediately report multiple cases of sick or dying birds to the proper officials.

Biosecurity includes practices designed to reduce the chances of an infectious disease, such as AI, being carried onto your farm by people, animals (wild or pets), equipment, or vehicles. It also includes practices to reduce the chance of disease leaving your farm should it occur. Isolate yourself and your farm as much as possible. Stay away from other poultry (swap meets, flea markets, chicken auctions) and other people who have poultry.

Do not introduce new birds onto your farm during an AI outbreak. Establish a good rodent-control program. Avoid the hangouts that other chicken folks frequent (feed stores, poultry supply houses, co-ops, cafes, coffee shops, etc.). Keep a 3-gallon sprayer of disinfectant in your vehicle, and, if you must go to town, disinfect your vehicle's tires and undercarriage when you pull off the road and into your driveway, before you check your chickens. Minimize or eliminate traffic flow. If you are a backyard flock owner, no one needs to be near your birds but you. If you are a commercial producer, no one needs to be near your birds but you and representatives from the company you grow for (service techs, feed truck drivers, veterinarians, etc.). Use footbaths (dry bleach works well) and dedicate footwear or plastic boot covers to your pen or, if you are a commercial grower, **each individual chicken house**. Know how to recognize disease symptoms and how to spot sick chickens or birds that simply "aren't doing right."

What symptoms should I look for?

Unfortunately, in the beginning, AI symptoms may look like symptoms of other respiratory diseases; however, an extreme and sudden increase in mortality is a good indication you may be dealing with more than a normal respiratory infection. Possible symptoms also include:

- swollen sinuses
- nasal discharge
- watery eyes
- sneezing
- coughing
- twisted neck
- stumbling or falling down
- dehydration
- diarrhea
- depression
- huddling
- lethargy
- decreased feed and water intake
- decreased fertility and hatchability
- decreased egg production
- misshapen eggs
- **sudden and extreme increase in mortality** (perhaps without symptoms)

How do I report sick or dying birds?

If you suspect you have a problem or you have multiple sick birds all at once or unexplained high mortality, say something immediately. If you are a commercial poultry grower in Mississippi, contact your service tech for guidance and assistance. If you have backyard chickens and suspect something is wrong, contact:

- your local county Extension agent;
- your local veterinarian;
- Mississippi Board of Animal Health (601-359-1170) or the animal disaster hotline (1-888-722-3106);
- a poultry Extension specialist with the Mississippi State University Poultry Science Department (662-325-3416); or
- Mississippi Veterinary Research and Diagnostic Laboratory (601-420-4700).

As mentioned earlier, there is no cure for AI. Prevention is our best protection. A strong biosecurity program is the best defense we have against avian influenza. Mississippi has plans in place to handle AI; however, with proper biosecurity on everyone's part, we shouldn't need to.

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