UofA UNIVERSITY OF ARKANSAS
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# Avian or Asian Bird Flu

Recently, there has been a tremendous concern about a strain of Avian Influenza (AI) referred to in the news media as the "Bird Flu," "Asian Bird Flu" or "Avian Flu." This strain of Avian Influenza has caused serious problems in poultry and humans in Southeast Asia.

Avian Influenza is a viral disease caused by a virus (Orthomyxovirus). The virus has two glycoproteins known as Hemaggultinin (H) and Neuraminidase (N) that protect the virus and allow it to adhere to surfaces such as respiratory cell membranes. There are 15 types of H glycoproteins and 9 types of N glycoproteins. The two glycoproteins are used by poultry health professionals to differentiate between strains of AI such as H5N2 or H7N1. In addition, AI is designated as low pathogenic or high pathogenic depending upon the genetic makeup and mortality levels it causes in poultry. The type of Avian Influenza currently in Southeast Asian nations is a "highly pathogenic" strain of H5N1. This strain has caused extremely high mortality in poultry and has infected 100+ humans, causing approximately 65 deaths. It is these features that have caused the great concern over the disease.

Normally, Avian Influenza was not considered to spread from birds to people without first going through an intermediary such as pigs. However, in 1997 in an outbreak in Hong Kong poultry, the virus did spread directly to people. Yet, it should be noted that many people have been associated with the eradication efforts and have not fallen ill with the disease. Unfortunately, a small number of people have developed an infection from the virus. Virtually all of these people have been in direct close contact with infected birds.

Most of the poultry raised in Southeast Asian nations are raised as "free-range or free-running poultry" (often referred to as village poultry) where they commingle with other animal and bird species as well as have frequent contact with people. It is thought that this practice of allowing poultry to commingle with other species in free-range situations has lead to Avian Influenza outbreaks. In the United States, commercial poultry are kept confined in controlled housing and have contact with only limited numbers of people.

The transmission of Avian Influenza to people has been the very rare exception. However, the concern is that, if the virus mutates and acquires human influenza genes, it could be transmitted efficiently from person to person, thus setting the stage for a possible pandemic (worldwide epidemic). It is this concern over the possible change in the virus to one that could cause a pandemic that has health officials worldwide anxious.

There have been limited outbreaks of Avian Influenza in poultry in the United States in the past. These infected flocks were humanely depopulated and disposed of. The poultry houses were cleaned, disinfected and checked for the virus. Currently, there is a ban on the importation of live poultry or poultry products from AI-affected areas. Also, it is important to note that almost all of the poultry sold in the United States is produced in the United States. Avian Influenza monitoring and surveillance efforts are constantly being conducted in the poultry industry as an additional safeguard. Because of these practices and the U.S. food inspection protocols, there is virtually no chance that a person will come in contact with poultry meat or products that are infected with the Avian Influenza virus. Normal hygiene practices such as washing of hands after handling raw poultry meat and properly cooking poultry reduce the chances further since the Avian Influenza virus is easily destroyed by normal cooking temperatures.

Currently, there is no vaccine available commercially for protection of people against H5N1 "Bird Flu." However, research efforts to develop a vaccine are continuing, and clinical vaccine test trials were conducted in April of 2005. The United States Center for Disease Control (CDC) has provided U.S. health departments with recommendations for enhanced surveillance and detection of H5N1 and has issued advisories to travelers visiting countries with outbreaks of H5N1. Numerous training programs and workshops have been conducted with state and local health departments to increase awareness of the disease and enhance the agencies' ability to detect H5N. The CDC is also working with the National Institute of Health and the World Health Organization to develop vaccine seedstock candidates and safety test vaccines. These preparations are being done to be ready in case the virus changes and develops the ability to spread from person to person, thus causing a pandemic. Hopefully, the changes in the virus will not occur, but the efforts to be prepared if the virus

changes could prevent numerous illnesses or deaths. There is currently no H5N1 Avian Influenza in the United States. The current safeguards in place make an outbreak highly unlikely. However, prevention and surveillance are always prudent.

Poultry producers can help protect their flocks against AI and other diseases by utilizing biosecurity practices such as those listed below:

1. Keep **"No Visitors"** and/or **"Restricted"** signs posted at the road entrance of the farm.

2. **Do not allow** visitors on the farm or in the poultry houses.

3. **All** farm personnel should wear **separate clothing** (including shoes, boots, hats, gloves, etc.) on the farm. Clothes used on the farm should **stay** on the farm.

4. **Completely change all clothing** after caring for the flock, and wash hands and arms thoroughly before leaving the premises.

5. **Do not visit** other poultry farms or flocks or have contact with any other species of birds.

6. Keep all poultry houses securely locked. Lock all houses from the inside while working inside.

7. All equipment, crates, coops, etc., should be **thoroughly cleaned and disinfected** before and after use.

8. **All essential visitors** (owners, feed delivery personnel, poultry catchers and haulers, service men, etc.) are to wear protective outer clothing (coveralls), boots and headgear prior to being allowed near the poultry flock or farm.

9. **Monitor all vehicles** (service, feed delivery, poultry delivery or removal, etc.) entering the premises to determine if they have been **properly cleaned and disinfected. This includes disinfection of the tires and vehicle undercarriage.**

10. Sick and dying birds should be submitted to a diagnostic laboratory for proper diagnosis of the problem. All commercial growers should contact their flock supervisor and follow their instructions.

11. **Dead birds** are to be **properly disposed of** by burial, incineration or other approved method.

12. Any person handling wild game (especially waterfowl) **must** completely change clothing and shower or bathe before entering the premises.

13. **Do not** borrow equipment, vehicles, etc., from another poultry farm.

14. **Do not visit** areas where Avian Influenza is a problem.

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