

Asian H5N1 Highly Pathogenic Avian Influenza

By Susan Clubb DVM

Editor's Note: The following information was prepared specifically for the American Federation of Aviculture at the request of the AFA Board of Directors. An official position statement regarding Avian Influenza is currently being prepared for AFA, and will include many points similar to those expressed below. As soon as this position statement becomes available it will be posted on the AFA website (www.afabirds.org) and will be published in a future issue of the AFA Watchbird.

ACTION POINTS

1. The Asian H5N1-Highly pathogenic avian flu virus (HPAI) has yet not been found in the United States. Aviculturists should remain on alert and immediately report any suspicious avian morbidity or mortality to the United States Department of Agriculture (USDA) and alert your veterinarian. (www.USDA.gov)

2. **If avian influenza appears in the United States**, isolating and securing companion and aviary birds from wild birds, especially waterfowl, and poultry will help to protect pet birds from exposure to the avian influenza virus. Aviculturists as well as bird owners, veterinarians and zoological parks should practice enhanced biosecurity at these times, especially in regard to birds which are being shipped or moved from one facility to another.

3. **If HPAI is found locally (your state or county)** all activities requiring movement of birds should be halted temporarily to avoid exposure to and spread of the disease. At these times aviculturists should practice strict exclusion of birds, people and potentially contaminated objects from entering or leaving their facility. The risk for potential depopulation if outbreaks occur in nearby poultry farms is very real, potentially more real than disease outbreaks in exotic birds. Carefully document your biosecurity measures as a point of defense against un-necessary culling due to exposure.

4. Bird's owners should **not be afraid** of contracting pathogenic avian influenza from companion and aviary birds in the United States. People, who are potentially interested in purchasing companion and aviary birds bred in the United States, should not be afraid of contracting Avian Influenza from these birds. There have been no recorded cases of transmission of avian influenza from companion and aviary birds to humans. Media reports about Bird Flu have created a state of fear that can be detrimental to birds and the relationship of people to birds. A rational response is necessary to avoid further deterioration of public perception. Although media reports have highlighted the serious nature of bird flu, there are many unanswered important scientific questions about this disease.

5. The USDA Animal and Plant Health Inspection Service (APHIS) working in conjunction with states has outlined a program for rapid response in the event that HPAI is detected within the United States. APHIS is working closely with poultry producers regarding disease surveillance and disease containment. The USDA has placed temporary bans on the imports of birds from any country in which highly HPAI has been reported. The poultry industry and the USDA are very vigilant to protect US poultry populations and keep our poultry free of HPAI. APHIS is monitoring wild populations of migratory birds in Alaska, and initiating surveillance nationwide, for the presence of Avian Influenza. For the benefit of our birds, aviculturists should cooperate with USDA in containment efforts. (www.USDA.gov)

Important facts about Highly Pathogenic Avian Influenza in birds

6. Avian Flu exists in many strains and mild forms of Avian Influenza are endemic to wild waterfowl such as mallards, but nearly all other varieties of birds have a low incidence of HPAI infection. The presence of Avian Influenza in wild waterfowl does not mean that the birds are diseased or that they can spread a virulent form of the virus to poultry or people. Avian migrations are typically North to South, not from Asia or Europe to the Americas although weather conditions and food sources could alter some routes. Insignificant migrations mostly of shorebirds occur from Russia across the Bering Strait into Alaska. These birds are highly unlikely to come into contact with poultry housed outdoors. If infected birds do enter Alaska the virus could pass to American migratory species that travel north and south in the Americas. Were the avian influenza virus to enter the Western Hemisphere from migratory birds, wild

birds in Alaska would be the first to become infected. US government teams are actively engaged in surveillance of waterfowl in Alaska.

7. Pathogenic Avian Influenza is a disease of **domestic poultry - not all birds**. Effective control must focus on the poultry industry in affected countries. Stringent global monitoring programs; immediate culling and correct disposal of infected poultry flocks are essential to limit the continued spread of the disease. Every effort must be made to limit the spread of the virus from infected poultry to wild waterfowl. Poultry commerce is a global industry with tens of thousands of chickens legally transported daily from one continent to another. Although it is highly unlikely day old chicks would have avian influenza, shipping cartons, feed, feces, transportation vehicles, or contaminated clothing are all potential sources of viral spread. Illegal shipments of poultry, poultry products or waste are very real culprits of the spread of avian influenza.

8. HPAI will not enter the US in legally imported exotic birds. Since 1972 all birds (poultry and exotic birds) imported into the United States undergo mandatory quarantine by The US Department of Agriculture and during this time each shipment has routinely been tested for HPAI virus during quarantine. During that 30-year period, with the entry of many millions of exotic birds, Pathogenic Avian Influenza virus has been found **ONLY ONCE** in Pekin Robins from China and it was not H5N1. HPAI is an extremely rare disease in exotic or companion and aviary birds.

9. Vaccination against avian influenza is being used in some countries to slow the spread of HPAI, however it is not the preferred strategy for stopping spread of this disease. If a vaccinated bird is exposed to HPAI it could develop a mild asymptomatic disease and could shed sufficient virus to infect other birds. Vaccination may also interfere with detection of the virus by regional or national health officials. Vaccination programs are costly in terms of vaccine price, but especially manpower and may miss many village chickens. Vaccinations must be repeated very 20 weeks for longer living birds. Vaccination is being used in some European Zoos to protect irreplaceable exotic birds but the criteria established by the European Commission for usage of these vaccines are onerous.

10. "Worldwide there are many strains of avian influenza which cause varying degrees of illness in poultry. Each year there is a flu season for birds just as there is for humans and, as with people, some forms of the flu are worse than other. HPAI has been

detected three times in the United States: in 1924, 1983 and 2004. The 2004 outbreak was quickly confined to one flock and eradicated. (USDA News Release No 0459.05, 10-26-05)

11. Culling wild populations of migrating birds is not an effective method of controlling the spread of wildlife diseases. Culling birds may facilitate dispersal of wild birds to new areas. It is difficult to determine which wild bird species are vectors of disease rather than victims. These actions could endanger species. (Bird Life International-Position Statement on Avian Influenza)


HPAI IN HUMANS

12. To date (3-21-06) the World Health Organization has reported 184 laboratory confirmed human cases of infection with H5N1 avian influenza in 8 countries in Asia, and the Middle East since 2003. Of these 103 have been fatal. (http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_03_21/en/index.html)


13. The case fatality rate, which has been reported, may be skewed by the fact that poor people in rural areas, who are most likely to be infected, are not likely

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to seek medical care unless their illness is grave. The human population of Asia exceeds 3.5 billion people. The socio-economic impact of avian influenza on the poorest human populations cannot be overstated. Poultry products are a main source of protein nutrition for a vast majority of the world's population. Poor populations suffer when village and contracted growers' chickens are culled and fear of contaminated produce stops them from eating poultry products.

14. In Asia it is common for millions of people to live in very close contact with poultry, with the birds often entering their homes. If a bird becomes ill the family will often slaughter it, clean it and cook it, potentially exposing himself or herself to the virus. Direct heavy exposure to an infected bird's body fluids is usually necessary for transmission to people. Millions of domestic birds in Asia and Turkey have become infected and have been destroyed to control the spread of the virus.

15. If pathogenic-human to human transmitted avian influenza does enter the US it's most likely source will be by entry of infected humans, not by infected birds. As in the 2003 outbreak of SARS in Canada, an infected international traveler introduced the disease and other cases occurred in exposed health care workers. This outbreak was brought under control by diligent Public Health response and monitoring of travelers for signs of illness (fever).

Important facts about the virus

16. Influenza viruses do not persist in the environment outside of a host for long periods of time. The avian influenza virus is very susceptible to dehydration, ultraviolet light and high temperatures. At 70° F, in dry condition the avian influenza will die within minutes. Under ideal conditions at room temperatures, human flu viruses can remain infective for about one week. Exposure to sunlight drastically reduces the length of time flu viruses can remain infective. At cold temperatures, in feces, the virus can survive for weeks. If frozen they can remain viable indefinitely. If poultry is cooked to 160°F all PHAI will be inactivated.

17. Avian Flu viruses rarely, if ever, jump straight to becoming easily transmissible human Flu viruses. Typically, Avian Influenza must undergo a series of mutations or a large genetic change to acquire the ability of human-to-human

transmission. Larger genetic changes can happen when an animal or human is infected with two different strains of influenza. Simultaneous infections of human and bird flu in a pig may be required for the viruses to interchange their genetic information and become both highly infectious to humans and highly pathogenic. This is the potential that Public Health officials fear. However, these large changes in genetic makeup are just as likely to result in genetic changes that make the virus non-pathogenic. (National Geographic Magazine-October 2005-"Killer Flu") ■



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