

# PENNSYLVANIA ON ALERT FOR AVIAN INFLUENZA

By Dr. Sherrill Davison, Associate Professor of Avian Medicine and Pathology,  
University of Pennsylvania School of Veterinary Medicine

## AVIAN INFLUENZA HAS BEEN DETECTED IN THE UNITED STATES.

Highly pathogenic avian influenza (HPAI) recently has been detected in commercial poultry, backyard poultry flocks, and wild birds in several states. As of early April 2015, the virus has been detected in wild birds in three of the four flyways: Pacific, Central, and Mississippi. It has not yet reached the Atlantic flyway. The two strains that have been detected in the U.S. are different from the H5 viruses that have caused human infections and deaths in other countries in the past. No human infections have been reported in relation to this latest outbreak. Generally, human infections with avian influenza viruses are rare, and most often occur after people are in direct or close contact with an infected bird.

Avian influenza (AI) is a respiratory disease that affects many birds, including poultry. Clinically, some AI viruses may cause a mild (low pathogenicity) form of the disease, while other AI viruses cause a more severe (highly pathogenic) form. The viruses are classified according to two proteins – the hemagglutinin (H) and the neuraminidase (N) – found on the surface of the virus. The H5 and H7 viruses are of most concern in poultry. Historically, these viruses have had the ability to mutate from a mild form of the disease to a highly pathogenic form.

## EXTENSIVE TESTING AND CONTROL PROGRAMS ARE IN PLACE.

Prevention and control methods for avian influenza in the U.S. include intensive surveillance programs involving serological testing and virus detection, submission of sick birds to diagnostic laboratories, and routine flock visits by poultry company personnel and veterinarians.

Penn Vet's Laboratory of Avian Medicine and Pathology at New Bolton Center routinely tests for avian influenza during necropsies on poultry. A new policy is to test all birds for AI, including wild birds, in an effort to monitor for arrival of the disease in Pennsylvania.

Historically, eradication of H5 and H7 AI viruses in poultry is the policy of the United States, because it is essential that viruses of low pathogenicity do not remain in our flocks and potentially mutate to a highly pathogenic form of the disease. Affected flocks are humanely euthanized and poultry products from these birds are not allowed to enter the market.

## THE FOOD SUPPLY IS PROTECTED AND SAFE.

The poultry industry, the state, and federal government take avian influenza very seriously. Protection of the flocks is the highest priority of poultry farmers. The industry is working with state and federal

governments to ensure that no matter what happens, the safety of the food supply is protected.

Any flock found to be infected with highly pathogenic avian influenza will be humanely euthanized and will not enter the food supply.

Poultry is as safe as it has always been. Consumers need to do no more than safely handle and properly cook chicken, turkey, and eggs.

## BIOSECURITY IS KEY IN PROTECTING FLOCKS.

Biosecurity is the practice of reducing the risk of infectious diseases entering a premises and infecting the birds. There are several ways infectious diseases are transmitted to poultry, including through other birds, people, vehicles, or equipment/tools/supplies. Important biosecurity measures to follow include: segregating new birds, limiting visitor access, wearing clean clothes dedicated to the premises, and not borrowing equipment, tools, or supplies from others with poultry.

## EXPERTS ARE USING PROTOCOLS LEARNED 30 YEARS AGO.

The lesson to prevent viruses of low pathogenicity to circulate in a population was learned in the 1983–1984 outbreak in Pennsylvania. The first case was caused in April 1983 by an H5N2 virus of low pathogenicity. By October of that year, the virus had changed to the highly pathogenic form. That outbreak cost the federal and state governments and the industry \$60 million, and 17 million poultry were affected.

The first AI case in the 1983–84 outbreak was diagnosed at Penn Vet's Laboratory of Avian Medicine and Pathology at New Bolton Center. Since that time, Penn Vet's poultry veterinarians and staff have been an integral part of the development and implementation of Pennsylvania's AI prevention, control, and surveillance program. The development of a Geographic Information System (GIS) database for mapping Pennsylvania poultry farms in 2000 by Penn Vet's Laboratory has been strategic in the control of AI outbreak situations.

As part of the Pennsylvania Animal Diagnostic Laboratory System (PADLS), laboratory personnel test about 70,000 samples each year for AI. In addition, research studies have focused on an evaluation of a bird-side test, an assessment of disinfectants, and an analysis of the economic impact of AI.

---

**TO SCHEDULE INTERVIEWS ON THIS TOPIC, PLEASE CONTACT:**  
Ashley Berke, Director of Communications, [berke@vet.upenn.edu](mailto:berke@vet.upenn.edu),  
215-898-1475 or Louisa Shepard, Communications Specialist for  
New Bolton Center, [lshepard@vet.upenn.edu](mailto:lshepard@vet.upenn.edu), 610-925-6241