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Canada's Approach to Avian Influenza

March 2007

Canada

Avian Influenza Facts

Avian influenza (AI) is a disease caused by a virus that can infect most species of birds. Wild waterfowl and shorebirds are natural reservoirs for AI viruses and these birds can carry many strains of the AI virus with little or no impact on their health.

AI viruses are named according to proteins called hemagglutinin (H) and neuraminidase (N). The combination of the two proteins is used to identify the virus type (e.g., H5N1 or H7N3). There are 16 different H's and 9 different N's, meaning that there are 144 possible combinations.

AI viruses can also be classified into two broad categories—low pathogenic (LPAI) and highly pathogenic (HPAI)—based on the severity of the illness caused in birds, with HPAI causing the greatest number of deaths in birds. Most AI viruses are low pathogenic and typically cause little or no clinical signs in infected birds. However, some low pathogenic viruses are capable of changing into highly pathogenic viruses. Only the H5 and H7 types are known to have become highly pathogenic in birds.

Genetic sequence further differentiates AI viruses from one another. Two viruses may have the same H and N combination but represent two distinct strains based on differing genetic material. As an example, there are routinely observed North American strains of H5N1, which pose little, if any, harm to birds. The Asian strain of H5N1, which has been found in Asia, Africa and Europe, has caused serious illness and death in domestic and wild birds, however this strain is not currently present in North America. The Asian strain has also demonstrated some ability to infect mammals, including humans and felines.

Human illness caused by AI is rare. It is almost always associated with close human contact with infected birds. There is no evidence at this time that the consumption of poultry in Canada could transmit AI to humans. As a precaution, Health Canada and international health authorities recommend proper cooking to kill a variety of foodborne pathogens, including AI virus. Proper food-handling practices, such as hand washing with soap and warm water for 15 to 20 seconds after handling raw food of animal origin, provide an additional safeguard.

Canada's AI Experience

Avian influenza is not a new disease. Occurrences of AI in domestic poultry around the world have been documented dating back to the late 1800's. Isolated cases of low pathogenic AI were confirmed in domestic poultry in Canada beginning in the 1960's.

Canada's most significant AI experience to date occurred in 2004 in the Fraser Valley of British Columbia. In that incident, a highly pathogenic H7N3 subtype of AI infected several commercial poultry operations and backyard flocks, prompting disease eradication efforts by the Government of Canada, the Province of British Columbia and the local industry. Economic losses resulting from the outbreak were estimated at more than $300 million.

Canadian testing for AI in wild birds has identified many different AI viruses including H5 subtypes: H5N9, H5N3, H5N2 and H5N1. In all cases, scientists determined that the viruses were low pathogenic North American strains.

AI Prevention and Preparedness in Canada

Canada has a comprehensive strategy in place for AI prevention and preparedness. It focuses on limiting opportunities for the introduction and spread of HPAI in Canada and mounting a coordinated, effective response if an outbreak occurs.

Import Restrictions

Canada does not permit imports of birds or bird products from countries or zones that are not recognized as free of HPAI. Canada has enhanced control measures on imports of live birds from all countries eligible to export birds to Canada to further limit opportunities for the importation of AI. These measures include new quarantine and inspection requirements for both the exporting country and the Canadian importer.

Securing our Borders

The Canada Border Services Agency (CBSA) assesses people and goods coming to Canada to determine if they pose a threat to the health and safety of the country. Border services officers assist the Public Health Agency of Canada by screening travellers for signs of illness and, if necessary, making referrals to a quarantine officer if a traveller requires further evaluation. The CBSA protects food safety and the environment by stopping prohibited or hazardous products arriving at air, land and sea ports.

The CBSA also informs travellers about importing goods through campaigns like *Be Aware and Declare!*, which provides the most up-to-date information on what can and cannot be brought into Canada. Individuals travelling to countries that are not recognized as free of HPAI should avoid poultry farms and live bird markets.

Surveillance

The Government of Canada, provincial and territorial governments, and animal health experts are conducting an annual surveillance program of AI in wild birds. Through this program, thousands of birds are sampled and tested for AI viruses. This helps animal and public health authorities to better understand the presence and characteristics of typical AI viruses in North America's wild bird population and could provide an early warning in the event that the Asian H5N1 strain is carried into Canada through migratory birds.

The Canadian Food Inspection Agency (CFIA) is working with the Canadian poultry industry to design an AI surveillance program for commercial poultry, to be put into place in 2007.

Biosecurity

Governments and industry have been working together to enhance existing on-farm biosecurity practices to limit opportunities for the introduction of AI and other diseases into commercial flocks and to minimize the chances of the disease spreading should an outbreak occur. The CFIA has developed a *Bird Health Basics* campaign to inform smaller poultry operations and backyard flock owners about how to prevent and detect disease in their birds.

International Cooperation

Canada works with international bodies such as the World Organization for Animal Health, the Food and Agriculture Organization and the World Health Organization to share and distribute information and best practices to fight AI. This includes developing new international biosecurity guidelines for the raising, handling and transporting of influenza-susceptible animals. Canada and the United States and Mexico are developing a joint strategy and procedures for AI planning and response.

Preparedness

The CFIA is constantly working with other federal departments, provincial and territorial governments, and industry partners to fine-tune and practise AI response plans. These plans draw from previous experience in Canada and abroad, and the most current internationally-accepted understanding of AI. While specific response elements vary based on the virus and infected poultry species, the CFIA's actions generally include movement restriction, animal disease controls and surveillance components.

The CFIA is researching AI viruses and how they spread, and is investing in the development of new disease control technologies and information systems. It is also expanding the human and technical resources available for responding to a prolonged AI outbreak or multiple outbreaks. This includes working with the Canadian Veterinary Medical Association to establish a reserve of private-sector veterinarians trained to provide surge capacity support in the event of a natural disaster or animal disease outbreak.

For additional information, visit the following sites:

Canadian Food Inspection Agency
www.inspection.gc.ca

Canada Border Services Agency
www.cbsa.gc.ca

Health Canada
www.hc-sc.gc.ca

or call 1 800 O-Canada (1 800 622-6232)
TTY: 1 800 926-9105

Cat. No.: A104-57/2007
ISBN 978-0-662-49895-7
P0543-07