Keeping an eye on avian influenza in wild Aussie birds

Scientists are keeping a close watch on avian influenza viruses, which are naturally present in wild Australian birds but rarely cause disease, given the potential for some strains to mutate and spread into domestic poultry.

Avian influenza virus surveillance was increased in 2005 by the Australian Government and Australia’s states and territories in response to the global emergence of the highly pathogenic H5N1 strain of virus. Since then, over 80,000 samples have been collected from migratory shorebirds and nomadic waterfowl species from across the country, yielding important information on these potentially troublesome viruses.

Dr Tiggy Grillo from Wildlife Health Australia gave an update on the wild bird avian influenza surveillance program at the International Conference of the Wildlife Disease Association, held on the Sunshine Coast from July 26 – 30.

She said the surveillance program ensures strains circulating in Australia can be detected rapidly, and helps pinpoint periods of higher risk of transmission to poultry.

“It is important to keep testing so we can keep track of subtle changes in the viruses as they happen and ensure that our diagnostic tests work well. We want to be sure that the tests used in Australia can detect overseas virus strains as well as Australian strains. There have been few outbreaks of avian influenza in Australian poultry and diagnostic tests utilised in Australian laboratories rely on wild bird samples to monitor the changes in these strains over time,” she said.

Dr Grillo said though avian influenza viruses circulate in Australian wild bird populations the program has never detected highly pathogenic avian influenza viruses in wild birds. Wild waterfowl such as ducks, geese and swans are natural carriers of these viruses. Testing has found that a small proportion of these birds carry the low pathogenic viruses, including some of the H5 and H7 subtypes, which can change to become more lethal to poultry.
Australia’s geographic isolation and unique climate, means that the patterns of circulation and genetics of avian influenza viruses amongst birds are different to other countries. For example, avian influenza virus tends to be detected more often in wild ducks after periods of high rainfall followed by drought.

“A better understanding of these patterns can help determine when there are periods of high risk for poultry farms.” said Dr Grillo.

She said Australia has experienced only seven highly pathogenic avian influenza incidents in poultry in the past 39 years, all caused by the H7 subtype. However, the increasing move towards free-range and open enclosures in Australia’s poultry industries means that the likelihood of contact between wild bird viruses and poultry will increase. Having good biosecurity practices in place and a knowledge of circulating viruses becomes even more important for managing risks to the industry.

Dr Grillo said avian influenza in birds very rarely causes disease in humans.

“We are always on the lookout for strains of avian influenza that have caused human infections overseas, and so far we haven’t found any,” she said.

Avian influenza has been in the news lately, as outbreaks of the disease in the United States earlier this year have affected 150 poultry farms and led to the deaths of over 48 million birds.

The Australian surveillance program is coordinated by Wildlife Health Australia with national funding provided by the Australian Department of Agriculture and in-kind contributions from a large number of collaborators including commonwealth, state and territory government agencies, non-government organisations, industry, and university researchers.

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