

The Disease In Birds: Impact And Control Measures

Source: www.birdflu.org.cn

Avian influenza is an infectious disease of birds caused by strains of influenza virus. Avian Influenza mostly affects birds and sometimes pigs. The disease, which was first identified in Italy more than 100 years ago, occurs worldwide.

All birds are thought to be susceptible to infection with avian influenza, though some species are more resistant to infection than others. Infection can cause a wide spectrum of symptoms in birds, ranging from mild illness to a highly contagious and rapidly fatal disease resulting in severe epidemics. The latter is known as "highly pathogenic avian influenza". This form is characterized by sudden onset, severe illness, and rapid death, with a mortality that can approach 100%.

Migratory waterfowl – most notably wild ducks – are the natural reservoir of avian influenza viruses, and these birds are also the most resistant to infection. Domestic poultry, including chickens and turkeys, are particularly susceptible to epidemics of rapidly fatal influenza.

Direct or indirect contact of domestic flocks with wild migratory waterfowl has been implicated as a frequent cause of epidemics. Live bird markets have also played an important role in the spread of epidemics. In case a virus would mutate into a form that could circulate in humans, there is a risk of a pandemic.

It is possible that viruses of low pathogenicity mutate into highly pathogenic viruses. During a 1983–1984 epidemic in the United States of America, the H5N2 virus initially caused low mortality, but within six months became highly pathogenic, with a mortality approaching 90%. During the 1999–2001 epidemic in Italy, the H7N1 virus, initially of low pathogenicity, mutated within 9 months to a highly pathogenic form.

The quarantining of infected farms and destruction of infected or potentially exposed flocks are standard control measures aimed at preventing the spread to other farms and eventual establishment of the virus in a country's poultry population. Stringent sanitary measures on farms can also confer some degree of protection.

As we cannot predict the future it is important to stay watchful.

Although Avian influenza is currently not within the portfolio of diseases that EADGENE focuses on, it is clearly very important and EADGENE partners are exploring ways of contributing to ongoing research in this disease. In particular they are exploring ways of applying resources and techniques to the study of host-virus interactions in birds infected with the avian influenza virus.