

# 2 What is Avian Influenza?

---

Outbreaks of Avian Influenza in poultry, when caused by highly pathogenic viruses of the H5 or H7 subtypes, are of great concern for the agricultural sector and can have considerable economic consequences. Such outbreaks are also of concern to human health. WHO, therefore recommends, for certain Avian Influenza viruses, a series of protective measures aimed at preventing human infections in persons at high risk of exposure.

For several reasons, the highly pathogenic H5N1 virus the greatest concern at present. Of all Avian Influenza viruses known to infect humans, H5N1 has caused the greatest number of cases of very severe disease and the largest number of deaths. Moreover, H5N1 has the potential to trigger an influenza pandemic. The virus has also proved to be particularly difficult to control in poultry populations and is now considered endemic in parts of South-East Asia<sup>1</sup>.

## 2.1 Affected species and natural hosts

Chickens, ducks, geese, turkeys, guinea fowl, quail, pigeons and numerous wild

birds may all be affected by influenza viruses. Depending on the virus or on the host, some birds will be resistant, others will get infected and may or may not show clinical signs.

Ducks are known to be resistant to the viruses and thus act as a "silent reservoir" that perpetuates transmission. In recent months, evidence has mounted that at least some species of migratory birds are directly spreading the virus, in its highly pathogenic form, H5N1, to parts of Central Asia and Europe. In addition to this, birds that survive infection may excrete the virus up to 10 days, orally and in faeces, facilitating further spread.

## 2.2 Humans at risk

Though Avian Influenza viruses normally infect only birds and, unusually, pigs, some strains of the virus have also crossed the species barrier since 1959 to infect humans on 10 occasions<sup>2</sup>. While most Avian Influenza viruses affecting humans have caused mild respiratory symptoms

---

<sup>1</sup> [http://www.who.int/csr/disease/avian\\_influenza/guidelines/firstoutbreak/en/print.html](http://www.who.int/csr/disease/avian_influenza/guidelines/firstoutbreak/en/print.html)

<sup>2</sup> INFOSAN Draft Note 2, November 2005- Highly pathogenic H5N1 avian influenza outbreaks in poultry and in humans: Food Safety implications. [http://www.who.int/foodsafety/fs\\_management/No\\_07\\_AI\\_Nov05\\_en.pdf](http://www.who.int/foodsafety/fs_management/No_07_AI_Nov05_en.pdf)

or conjunctivitis, the Highly Pathogenic Avian Influenza (HPAI)<sup>3</sup> resulted in severe disease outbreaks with high fatality rates in 1997, 2003, and in the ongoing outbreak, caused by the strain H5N1, that began in South-East Asian countries in early 2004. The disease caused by H5N1 follows an unusually aggressive clinical course, with primary viral pneumonia and multi-organ failure being common. From December 2003 to 1<sup>st</sup> of March 2006, 174 human cases have been reported, of which 94 were fatal<sup>4</sup>.

The H5N1 virus has the potential to cause catastrophic human pandemics if it mutates into a form that transmits rapidly between humans. Although several mutations in the virus have been detected during 2005, the significance of these mutations in terms of virulence and transmissibility in humans, is not fully understood yet.

## 2.3 Characteristics of the Avian Influenza virus

The H5N1 virus can survive in faeces for at least 35 days at low temperature (4°C); at 37°C, viruses could survive for six days in stability tests on faecal samples (in studies using H5N1 viruses circulating during 2004). Avian Influenza viruses can also survive on other surfaces, such as those within the poultry house environment, for several days. In general, low temperatures maintain the stability of the viruses.

Due to these survival properties, food preservation processes such as freezing and refrigeration will not reduce the concentration or virulence of these viruses in contaminated meat. Normal cooking (temperatures at or above 70°C in all parts of the product) will inactivate the virus.

**To date, there is no epidemiological evidence showing that people get infected following consumption of contaminated poultry meat that was properly cooked.**

---

<sup>3</sup> A Global Strategy for the Progressive Control of Highly Pathogenic Avian Influenza (HPAI),FAO/OIE/WHO, November 2005; <http://www.fao.org/ag/againfo/subjects/documents/ai/HPAIGlobalStrategy31Oct05.pdf>

<sup>4</sup> Lab confirmed cases reported to WHO. [http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2006\\_03\\_01/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_03_01/en/index.html)