



Avian Flu

Raoul van der Westhuizen reviews the real issues behind the hype and sensation around Avian Flu and announces the Avian Flu Early Warning Programme of SA Wingshooters.

Avian influenza occurs throughout the world and all birds, including domestic poultry, can get Avian Flu, of which there are some 15 subtypes and many more strains. Wild waterfowl are carriers and thus act as the world reservoir of Avian Influenza. On occasion, a subtype such as H7N3 becomes established in domestic poultry where it can become highly pathogenic ('hot') and kill millions of birds. The flu that recently infected ostriches in the Southern Cape in this way was the H5N2 virus subtype.

When a 'wild' flu virus that jumped to domestic poultry again 'drift' mutates it can produce a strain that can in turn infect humans from the infected poultry. This happened to a strain of the H5N1 virus in Hong Kong in 1997. In humans, the 'drifted' virus was very dangerous with high mortality rates. This again happened to a H5N1 strain in Korea in 2003 and again in Vietnam in 2004. **But the transmission of Avian Flu directly from wild birds to humans has never been documented.**

Because Avian Flu is caused by a virus, antibiotics are ineffective and cannot be used as treatment. There are a few anti-viral drugs available (such as 'Tamiflu' by Roche which is used to treat human influenza and AIDS, and 'Relenza' by Glaxo), but these drugs have limitations and are less effective in full blown cases where delays took place before patients were treated.

In cases where Avian Flu 'drift' mutated and infected humans, this was limited to people working closely with poultry. The disease does not pose a serious threat to the general public at all, unless something happens that occurred three times in the 20th century: Genetic material from one flu virus (e.g. avian) merged with genetic material from another flu virus (e.g. human) by antigenic 'shift' to produce a new flu virus subtype that infects humans directly from other humans. This results in a pandemic such as the Spanish Flu of 1918, which killed 50 million people.

The H5N1 virus has not 'shift' mutated in this way but it is a flu virus and flu viruses are known to 'drift' mutate constantly and easily (this is why a vaccine for the common human influenza often does not work by the end of the 'flu season' because the flu virus has mutated from the original strain used to make the vaccine). Scientists say that the Asian strain of H5N1 could likely be the flu virus to 'shift' mutate to produce a pandemic.

This is why organisations and governments tend to 'cry wolf' and project worst case scenarios, in order to protect themselves against accusations if it should happen.

The spread of the Asian strain of H5N1 cannot be stopped, because wild birds are carriers of the virus. This explains the alarming spread of H5N1 along the global bird migration routes from Asia to Eastern Europe and

down to East Africa. Fortunately, our gamebirds do not migrate intercontinentally. Our ducks and geese, for instance, do not migrate beyond Zambia except for red-billed teal, which might migrate as far as Kenya. Our francolin, partridge and guinea fowl are firmly local residents. But the threat of infection to our gamebirds could potentially come from contact with wild birds such as waders, sandpipers and terns, which migrate to SA from Europe and as far away as the Caspian Sea and even Siberia.

Can our dogs get Avian Flu? Equine Flu (H3N8) has jumped species in the USA to infect dogs and according to a report just published in Nature, 25% of dogs (and cats) tested in Thailand's central district had H5N1 antibodies. This means in theory that our gundogs could get infected from (eating?) sick poultry, but more research is needed.

In view of our activity of waterfowling, SA Wingshooters is in a unique position to collect data on 'Asian' H5N1 earlier than anyone else and we are establishing an Avian Flu Early Warning Programme with members who volunteer to collect samples from gamebirds for analysis by scientists at Onderstepoort. Volunteers will receive training on how to collect samples and how to minimise any risk to themselves and their dogs.

The programme is important to ensure early detection of H5N1 in SA and thus minimise the health risk to the public. 