Highly pathogenic H5N8 avian influenza broke out in Mashonaland East, Zimbabwe (fig 1) on 17 May 2017, and was confirmed by the Onderstepoort Veterinary Research (OVR) laboratory on 29 May. A meeting with the South African Poultry Association, The Poultry Group of the South African Veterinary Association, The national Department of Agriculture, Forestry and Fisheries (DAFF), provincial government representatives and other interested parties took place in Pretoria on 9 June to discuss the disease and preparedness and contingency plans.

In Zimbabwe, 3000 broiler breeders died within a week (3.6% of the birds on the site) with 7845 total deaths by 1 June (9.45% of site). Seventy-five thousand birds had been pre-emptively slaughtered by that time—seemingly the rest of the 83 000 bird site. The farm, identified in the news as Irvine’s Private Limited (www.herald.co.zw), contained two million breeder birds on eight sites, at least a kilometer apart. A dam near to the affected site attracts migratory birds and is suspected to be the source of the virus.

In early 2014, China, Japan and the Republic of Korea reported a novel high path Eurasian H5N8-reassortant in migratory birds and poultry. By November, the virus was detected in wild birds and was causing outbreaks in poultry in Europe and North America.

By 2016 a new reassortant was reported in March in the Republic of Korea, in June in Russia, and in November in India, Europe and the Middle East (OFFLU, 29 Nov 2016). The European virus spread from Asia via wild birds (OIE, 8 May)

So far, in Africa, this HPAI subtype H5N8 has been reported in Egypt in November 2016, Nigeria and Tunisia in December, Uganda on 30 January 2017, Cameroon and Niger in February, DRC on 25 April and now in Zimbabwe.

Worldwide in 2017, as of 8 May, 2.5 million poultry had been destroyed in ongoing H5N8 outbreaks, though the

Figure 1: Location of outbreaks of H5N8 avian influenza since 1 Jan 2017 (FAO)
number of outbreaks was decreasing. There were 17 countries affected with 258 ongoing outbreaks in poultry and 215 in wild birds (OIE). These wild birds include a wide variety of water birds, birds of prey, starlings, ravens, magpies, pheasants, thrushes and blackbirds, both healthy and alive, and dead (FAO). The virus has also been associated with at least one ostrich mortality in South Korea.

H5N8 affects a wide variety of organ systems, not just respiratory and gastro-intestinal, and therefore causes a variety of clinical signs, including high morbidity and mortality, green diarrhoea, respiratory signs, cyanosis and oedema of head and hocks, incoordination and pin-point haemorrhages. In Asia, it has been found that chickens shed virus for up to 11 days after infection (C. Abolnik, pers. comm.).

So far, there has been no record of H5N8 causing disease in humans. However, the virus falls into the same clade (2.3.4.4) as highly pathogenic H5N6, which has been associated with human deaths. It is therefore advised that anyone investigating a case of increased mortality in birds wear full protective clothing (disposable suit, double gloves, respirator, goggles and boots) and disinfect the outside of sample containers. Circulation in bird populations also increases the risk of mutations from co-infections and the public health risk.

Advice:

- Be alert for dead wild birds and submit them for AI testing. Chilled (but not frozen) organs can be submitted. Swabs of fresh faeces can also be tested. Submit in viral transport medium, with antibiotics (enrofloxacin). The sample should be sealed securely for transport, in two waterproof layers, with an absorbent layer between them.
- Poultry owners: report any increased mortality to the state vet or private vet and submit carcasses for testing.

Basic biosecurity:

- Bird-proof all poultry houses.
- Consider keeping free-range flocks inside.
- Foot baths: there should be one to remove debris and a second with disinfectant. A virucidal disinfectant is recommended, with at least 30 seconds of contact time.
- Water provided to birds from open water sources should be chlorinated and water tanks should be covered.
- Dispose of mortalities and manure in a way that will not attract wild birds to poultry houses.
- There is no advantage to killing wild birds.

Other avian influenza

There has been widespread stamping out related to avian influenza with nearly 31 million birds destroyed for ongoing outbreaks (OIE, 8 May).

H5N8 from Europe and no relation to the Asian virus. H7N9 was first detected in 2013 and it remained low pathogenic in poultry, though it has been linked to over 1400 human infections in China, the main source being live bird markets. From February 2017, a highly pathogenic strain has been isolated from birds, indicating a mutation of the low pathogenic virus. The USA has also reported H7N9, but it is a different strain.

Highly pathogenic Asian lineage H5N1 has become enzootic in Asia and Africa and has caused sporadic human infections. It is seen as a major threat to humans who have contact with birds.

H7N3 has been detected most recently in Mexico as a subclinical infection in poultry.

The meeting in Pretoria resolved to increase awareness of a possible H5N8 outbreak in South Africa and to increase capacity to detect increased bird mortalities (wild and domestic), as soon as possible. Government will soon be finalizing preparedness and contingency plans and compiling up to date databases of poultry farm locations and basic epidemiological information, as well as investigation options for culling and carcass disposal, should it be necessary.

References

Prof. Celia Abolnik, Faculty of Veterinary Science, University of Pretoria.
Dr Deryn Pettey, The Poultry Practice
Disease and surveillance

Disease and Census - May 2017

Legend
Disease
- Babesiosis
- Distemper
- Lumpy skin disease
- Parasites: External
- Rabies
- Salmonella enteritidis
- Sarcopitic Mange
- UBALO visits (n=722)

Farm visits - May 2017

Farm visits
- Clinical event (n=118)
- Education event (n=38)
- General farm visit (n=19)
- Regulatory event (n=224)
- Sampling event (n=212)
- Routine vaccination event (n=484)
Welcome to new State Veterinarian: Epidemiology

This month the Epidemiology Section welcomed a new state veterinarian, Laura Roberts.

In addition to her BVSc, Laura has obtained an MSc in epidemiology from the University of Pretoria. Her research, entitled "A multiple criteria decision analysis (MCDA) tool to assess foot-and-mouth disease (FMD) control methods in South Africa" focused on perceptions of foot and mouth disease control methods. The aim was to explore MCDA as a tool to help with decision making about disease control in South Africa. Different stakeholder groups were asked about their perceptions of the technical, economic and ethical effects of the FMD control methods, and which effects should be prioritized when choosing control methods.

Laura originally hails from KwaZulu-Natal, where she has worked as a production animal veterinarian. We are very happy to have her join our team at Elsenburg and we wish her a long and fulfilling career in Western Cape Veterinary Services.

Outbreak events

- Three cases of wildlife rabies occurred in the province during May
  ⇒ A farmer close to Malmesbury saw a bat-eared fox in his field during the day showing no fear of humans. As this farmer has had rabid bat-eared foxes on his farm in 2011 and 2013, he shot the fox before it could have contact with any people or domestic animals and reported the case to State Veterinarian Malmesbury immediately.
  ⇒ A bat-eared fox was found in the town of Vredenburg during the day, where it was attacked by two small dogs. The owner of the dogs took the fox to the local veterinary hospital where it showed nervous signs and aggression towards its water bowl. The fox was euthanised and the dogs, their owner and the staff of the veterinary hospital all received rabies vaccinations.
  ⇒ A Cape fox in the Piketberg area came onto a farmer’s yard and showed no fear of humans. The farmer killed the fox before it had any contact with humans or domestic animals. Dogs and cats on surrounding properties were vaccinated.

- Sheep showing signs of bluetongue were treated on three farms in the Murraysburg and Leeu-Gamka areas.

- Ten cattle near Nelspoort showed signs of lumpy skin disease.

- Salmonella enteritidis was cultured from chick box liners and environmental swabs on five broiler chicken farms surrounding Malmesbury.

- An outbreak of mange occurred in smallholder pig farmers’ livestock in the Atlantis area.

- Cases of canine babesiosis, distemper and sarcoptic mange were seen by the community service veterinarians working at the clinic in Beaufort West.

Disclaimer: This report is published on a monthly basis for the purpose of providing up-to-date information regarding epidemiology of animal diseases in the Western Cape Province. Much of the information is therefore preliminary and should not be cited/utilised for publication.