



VETERINARY SURGEONS BOARD OF SOUTH AUSTRALIA

VETERINARY SURGEONS BOARD OF SOUTH AUSTRALIA 2021 E-BULLETIN #10

Arboviral diseases in Ruminants and Horses

This e-Bulletin has been sent to all registered veterinary surgeons on behalf of Dr Mary Carr, Chief Veterinary Officer, South Australia, Biosecurity SA, PIRSA.

With a La Nina climate event forecast to continue there is an increased likelihood of arboviral disease events this summer. It has been some years since the last event so we have compiled some information relating to arboviral diseases affecting horses and ruminants and laboratory testing for them. Please also continue to be vigilant for potential exotic diseases – African Swine Fever, Lumpy Skin Disease and African Horse Sickness have all spread internationally this year.

PIRSA would also like to thank you for your contribution to our animal health programmes in 2020. The disease surveillance that you carry out plays an important role supporting South Australia's claims of freedom from trade-sensitive diseases and therefore protecting our export markets. Please note that PIRSA offices will be closed from 24th December 2020, reopening on the 5th of January 2021, but we are contactable during this period, if required, on the EAD Hotline 1800 675 888.

Arboviral diseases in ruminants and horses may be on the increase this summer due to the La Nina effect with the weather being wetter and warmer than normal, causing ideal conditions for an increase in insect vector populations.

PLEASE BE ALERT AND REPORT!!

Arboviral diseases in horses include:

- Flaviviruses which includes Murray Valley encephalitis (MVE) virus and Kunjin virus, which is the Australian strain of West Nile virus, referred to as West Nile Virus-Kunjin Strain (WNV-Kunjin)
- Ross River virus (RRV)



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These viruses are transmitted by mosquitoes. Horses may not always show clinical disease with the above diseases, however in some cases animals may present with neurological or musculoskeletal signs such as:

- Staggering
- Incoordination
- Weakness
- Depression

The clinical signs of arboviral disease also mimic a number of other illnesses, including notifiable diseases such as Hendra Virus. It is therefore important to obtain an accurate history of any horse movement and to wear personal protective equipment (PPE) when sampling or handling horses displaying neurological signs. Both Hendra Virus and the WNV-Kunjing strain are notifiable diseases in SA.

Arboviral diseases in ruminants

Arboviral diseases in ruminants include:

- Akabane virus
- Bovine ephemeral fever (BEF) virus, also called 3-day sickness
- Bluetongue virus (BTV)

These diseases are not known to occur in South Australia. Akabane and BEF is found in the northern parts of Australia, along with a low pathogenic form of BTV (usually with no clinical disease signs). These diseases are transmitted either via *Culicoides* midges or mosquitoes. Should optimal conditions occur, these vectors might travel further south, potentially infecting SA livestock. BTV and Akabane are both notifiable diseases in SA.

Cattle do not show symptoms for Australian strains of BTV, but sheep may show clinical signs. Akabane disease may present as congenital deformities in lambs and calves, while BEF tends to show as mild disease with a fever, depression and lameness.

Signs of BTV in sheep include:

- fever (> 40.5oC)
- haemorrhages /hyperaemia, vesicles/ulcers on oral and/or nasal mucosa
- Lameness and/or stiff gait
- Swollen lips and/ or tongue (may be cyanotic)
- Acute reddening and/ or petechial hemorrhages on coronary band
- Abortions
- Malformed lambs



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- Blindness

Samples to collect for arboviral diseases

Samples from horses:

Flavivirus – serum for ELISA
WNV – serum for ELISA, Dry Swab for PCR
Kunjin – serum for ELISA & SNT
MVE – serum for ELISA & VNT
RRV – serum for ELISA & VNT

PIRSA will pay for laboratory testing for Flavivirus, MVE, WNV and Kunjin **but not RRV.**

Samples from ruminants:

- BTV– serum for AGID & ELISA, EDTA for virus isolation & PCR, fresh tissue for PCR
- BEF testing – serum for ELISA & VNT, EDTA for PCR
- Akabane testing – serum for ELISA & AGID

PIRSA will pay for laboratory testing for all of the above ruminant diseases.

Arboviral diseases in humans

Arboviral diseases can also affect humans with Ross River virus and Barmah Forest virus being the most common diseases in SA. Further information can be obtained from the [SA Health website](#).

If you suspect arboviruses in livestock or horses, please report it to your regional PIRSA Veterinarian or Animal Health Adviser, or call the Emergency Animal Disease Watch Hotline on 1800 675 888

23 December 2020