

Bluetongue Virus (BTV)



Bluetongue virus is a non-contagious viral disease of ruminants spread by biting midges. Most of Victoria is a BTV transmission-free area¹.

WHAT IS BLUETONGUE VIRUS (BTV)?

Bluetongue virus (BTV) is an insect-borne viral disease that causes an illness in livestock called 'Bluetongue'. Clinical signs can include inflammation of the mucous membranes, oedema and haemorrhages, which vary in severity. Of the 26 serotypes of BTV, 13 have been detected in Australia. The highly pathogenic strains associated with some overseas outbreaks are exotic to Australia.

BTV does not persist in animal carcasses, animal products, outside of the host or vector, on equipment, personnel, or in the environment.

The distribution of BTV in Australia is monitored through the National Arbovirus Monitoring Program (NAMP) and involves regular testing of sentinel herds across Australia.

HOW IS THE VIRUS SPREAD?

The virus does not spread directly from animal to animal (i.e. it is not contagious) and is usually spread by insects feeding on infected animals.

The virus is transmitted to ruminant animals by biting midges (*Culicoides* midges). To date, the biting midge *Culicoides brevitarsis* has been considered the most important carrier of BTV and the distribution of BTV in Australia is largely determined by the distribution of this insect. *Culicoides brevitarsis* is generally limited to the northern areas of Australia and is not known to be present in Victoria.

Livestock generally start to show signs of disease (mainly in sheep) 5-20 days after being bitten by an infected midge. BTV is usually spread to sheep (via biting midge) following amplification of the virus in cattle, therefore disease might not be observed for some time after the virus has entered an area. Infected animals may remain infective (viraemic) for up to 60 days. An insect vector spreads the virus by biting a viraemic animal and then transferring the virus to other animals it feeds on.

WHAT SPECIES ARE AFFECTED?

All ruminants are susceptible, including sheep, cattle, goats, deer, camelids and buffalo.

Sheep can experience severe disease, with breeds such as Merinos and British breeds being most susceptible.

Cattle can carry the virus without showing any obvious signs of illness. Viraemic (infected) cattle provide a reservoir for the virus to be spread by biting midges.

CAN THE VIRUS SPREAD TO HUMANS?

No, BTV cannot infect people.

There are no food safety issues, and meat and dairy products are safe to consume.

WHAT ARE THE CLINICAL SIGNS OF BLUETONGUE VIRUS?

Until recently, clinical disease had only been reported in Australia in two minor incidents involving sheep in Darwin in 1989 and 2001.

Clinical disease has more recently (between 2022 and 2024) been reported in sheep in Queensland and NSW. This is the first time clinical bluetongue has been reported in commercial flocks in Australia.

Sheep are often the most severely affected species, and may present with a range of clinical signs. Disease is also recognised in cattle, but clinical signs are seen less frequently than in sheep.

Clinical signs may include:

- Fever (40 to 41°C)
- Excessive salivation and initially clear nasal discharge turning thick with mucus and pus
- Swelling of lips, tongue and face and breathing difficulties
- Bloody diarrhoea
- Lesions on the feet with possible reddening of the coronary band (top of the hoof)
- Rapid weight loss and drop in production
- Death (Mortality rates of 20-40% are common but may be as high as 70 per cent in sheep.)

Some animals may show signs of a swollen, blueish-coloured tongue (hence the name 'Bluetongue'). This will not always be seen and should not be relied upon to diagnose Bluetongue virus.

¹ In 2024, a BTV serological detection in a NSW NAMP cattle herd resulted in the BTV Transmission Buffer zone crossing into a small area of east Gippsland in Victoria. For a current NAMP zone map refer to <https://namp.animalhealthaustralia.com.au/public.php>

WHAT DO I DO IF I SUSPECT BTV?

BTV is a notifiable exotic disease and any suspected cases must be reported immediately to Agriculture Victoria on the **Emergency Animal Disease Hotline on 1800 675 888** (24/7) or to your local Agriculture Victoria Animal Health and Welfare staff.

HOW CAN I REDUCE THE RISK OF EXPOSURE?

BTV does not infect or persist on people so there are no specific PPE requirements, however good hygiene practices are recommended when handling animals.

In general it is also good practice to change clothing and wash footwear between handling animals between different properties.

HOW CAN I REDUCE THE RISK OF SPREAD?

BTV is spread through biting insects or management practices that involve penetrating the skin, e.g. vaccination, blood collection, etc.

Infected animals should be kept isolated.

Insecticide can be applied to reduce insect numbers and minimise further spread of the virus.

To minimise the risk of spreading the virus through management practices avoid sharing needles between animals when injecting and thoroughly wash and decontaminate other equipment between animals.

WHAT IS THE GOVERNMENT'S RESPONSE TO BTV?

The government's response to an outbreak of BTV will aim to eliminate clinical disease and minimise economic impacts. A combination of strategies can be deployed, which may include:

- Quarantine and movement controls for ruminant livestock in declared areas
- Treatment and husbandry procedures to control insect attacks, minimise health and production effects and provide animal welfare relief
- Tracing and surveillance to determine the source and extent of infection

FURTHER INFORMATION

- AUSVETPLAN – Bluetongue Virus Response Strategy
<https://animalhealthaustralia.com.au/ausvetplan/>
- Agriculture Victoria – Bluetongue virus
<https://agriculture.vic.gov.au/biosecurity/animal-diseases/general-livestock-diseases/bluetongue-virus>