Ruminant Health & Welfare: ACT on BTV-3 bluetongue prevention FAQs

Q. What type of midge transmits Bluetongue virus?
A. BTV is transmitted by Culicoides biting midges. These are the smallest blood feeding insects; 2-4mm long and are hugely abundant.

Q. Where do midges breed?
A. Midges breed in damp organic matter such as soil, leaf litter, compost, and animal dung (different to mosquitos who breed in water such as ponds)

Q. How does BTV transmission occur?
A. An uninfected adult midge bites an infected ruminant animal taking in blood and therefore taking in the virus. The virus replicates within the insect (4-20 days depending on air temperature) and moves to the salivary glands. The infected adult midge then bites an uninfected ruminant, transmitting the virus. A single bite from a single infected midge is sufficient to reliably transmit the virus. This ruminant animal will be infectious within 2-4 days.

Q. How many infected midges need to bite an animal to transfer the virus and then result in clinical signs?
A. A single bite from a single infected midge will reliably transmit the virus. Additional bites will not result in greater levels of infection or worse clinical signs.

Q. What time of year does BTV transmission occur?
A. BTV transmission is seasonal because midges are seasonal. Culicoides midges are active in Northern Europe between April and November with peaks in May and September due to temperature.

Q. When are midges most active?
A. Midges are most active at dusk and dawn. Their activity is strongly influenced by the weather. Midges are not able to fly in high winds or rain. Average daily temperatures need to be above 15 degrees Celsius for BTV to replicate within the midges.

Q. How can I protect my livestock from being bitten by midges?
A. There is no way of protecting all livestock from being bitten by midges. Use wind to your advantage as midges cannot fly in high winds.

Q. Will an insecticide protect my livestock from midge bites?
A. There is no evidence that insecticides (applied to the animal) can kill midges fast enough to prevent the first bite and will not prevent onward transmission of bluetongue. There are no products licensed for Culicoides ‘control’. Residual spraying of insecticides around your farm would present a significant environmental risk to all other insects.

Q. Will an insect repellent protect my livestock from midge bites?
A. There is no evidence that insect repellents prevent onward transmission of bluetongue virus. Repellents have very short retention/efficacy times, especially in the rain. Any products claiming medicinal effects are doing so illegally.

Q. Are there any midge traps that I can use in my sheds to control midges?
A. Midge traps are used in midge monitoring, but they are not effective at reducing midge population size.

Q. Should I house livestock and use nets on sheds to control midges?

A. Midge nets on buildings were used in The Netherlands, however, it was thought that air movement above the animals (at a speed of >3m/s) was more important in preventing the midges coming into contact with livestock than the nets themselves. 'Midge nets' available to purchase often do not have small enough aperture for Culicoides midges (less than 0.5mm aperture) and are very costly.

Effectively screening a whole barn could be practically challenging. Housing animals during a hot summer could have welfare implications if air flow is insufficient.

Q. Will removing or covering muck heaps prevent midges breeding and hatching?
A. No. Midges breed in a wide range of habitats. If you remove or cover dung heaps, they will find an alternative.

Q. What can I do to control midges on farm?
A. Midges do not like wind or rain. Take advantage of windy, high, colder grazing areas.

Q. What midge control methods should I use during transit?
A. Good biosecurity is the best method of control, i.e. keeping trailers clean. Avoid moving during dawn and dusk when midge biting activity is highest. Movement restrictions are the best method of reducing disease transmission during an outbreak.

Q. How far can an infected midge travel to infect another animal?
A. How far a midge can fly depends on multiple factors including wind speed, direction and obstacles. Midges will travel up to 3km across land. Midges can be transported further in winds across seas.

Q. How will I know if there are infected midges on my farm or in the area?
A. There is no way of knowing if midges are infected with bluetongue virus. Midges are more likely to be infected with bluetongue if there are reports of the virus on neighbouring farms and within TCZs.

Q. Should I use sheep dips to prevent bluetongue?
A. No. There is no evidence that dipping sheep will kill Culicoides or prevent onward transmission of bluetongue.

Q. Will covering animals with blankets prevent bluetongue?
No. Midges tend to bite around the face, ears, legs etc. which will still be accessible.

In the UK, bluetongue, including BTV-3, is a notifiable disease, so anyone suspecting the disease must take action and report it to the Animal and Plant Health Agency (APHA).

Further information about how to ACT on BTV-3 and the latest updates please visit Bluetongue Virus - Ruminant Health & Welfare (ruminanthw.org.uk).