

About the disease

Q1. What is Bluetongue?

Bluetongue is a disease affecting all ruminant animals including sheep, cattle, deer, goats and camelids (camels, llamas, alpacas, guanaco and vicuna). It does not affect horses or pigs. **Bluetongue does not affect humans.**

Q2. What are the main characteristics of the disease?

It is characterised by damage to blood vessels seen as changes to the mucous linings of the mouth and nose and the coronary band of the foot.

Q3. What causes the disease?

It is caused by a virus. The virus is transmitted by the bite of infected midges (of the genus *Culicoides*). There are 25 separate strains of the virus referred to as Bluetongue Virus (BTV) 1-25. These strains give different disease severity. The strains currently affecting Northern Europe are BTV 8 and 4.

Q4. Can the disease be transmitted directly between animals?

No, Bluetongue virus cannot naturally be transmitted directly between animals. Virus transmission occurs via the bite of an infected midge. However, the likelihood of mechanical transmission of the virus between herds/flocks and within a herd/flock by unhygienic practices (e.g. the use of contaminated surgical equipment or hypodermic needles) cannot be excluded.

Bluetongue can be transmitted to a foetus from an infected pregnant animal. This leads to calves being born small and blind, causing them to die within a few days of birth.

The BTV-8 strain of bluetongue circulating in France is likely to cause fewer clinical signs in adult cattle. But it will cause more instances of clinical problems in calves.

Q5. How do I spot disease?

It is important to be vigilant as clinical signs can vary between species. Although symptoms are generally more severe in sheep, cattle can also show signs of disease. If you identify any of the following signs, which are not explained by another disease you are dealing with, you must report this immediately to your private vet or your local Animal and Plant Health Agency (APHA) office.

Clinical signs in sheep:

- Eye and nasal discharges
- Drooling as a result of ulcerations in the mouth
- High body temperature
- Swelling of the mouth, head and neck
- Lameness
- Haemorrhages into or under the skin
- Inflammation at the junction of the skin and the horn of the foot – the coronary band
- Respiratory problems – difficulty with breathing and nasal discharge
- A blue tongue is rarely a clinical sign of infection

Mortality rates in a sheep flock may be as high as 70 per cent. The disease is not always fatal. Animals can survive but will lose condition with a reduction in meat and wool production.

Clinical signs in cattle:

It is possible that cattle will show no signs of illness, however clinical signs have included:

- Nasal discharge
- Swelling of the head and neck
- Conjunctivitis (runny eyes)
- Swelling in, and ulceration, of the mouth
- Swollen teats
- Tiredness
- Saliva drooling out of the mouth
- Calves born small, blind – dying within a few days

In cattle, the disease cannot be easily diagnosed on clinical grounds and may require laboratory testing for confirmation.

Q6. What should I do?

You should regularly inspect your stock, particularly focusing on the mucous linings, (lining of the mouth and nose) and the coronary band (where the hoof stops and the skin starts), and; if you suspect one of your animals has Bluetongue, it is vital to report it as early as possible. Contact your nearest APHA office immediately.

Q7. What should I do if I suspect my animals have Bluetongue?

Bluetongue is a notifiable disease. This means you must contact a veterinary surgeon to check your animals if you suspect they may have Bluetongue. This can be your local vet or an APHA vet.

Q8. What can farmers do to prevent their animals becoming infected?

Vaccination is the best way to protect animals from the Bluetongue virus. You should discuss with your vet whether vaccination would benefit your business.

You need to [get a general licence to vaccinate your animals](#) if they're outside a [restricted zone](#) for bluetongue.

It can take up to 6 weeks for your animals to be fully immune as your animals must have 2 injections of the vaccine, 3 weeks apart.

Vets can apply to the Veterinary Medicines Directorate for a Special Import Certificate (SIC).

As infected animals can be a source of virus which can pass to local midge populations, farmers must ensure newly acquired livestock are from uninfected sources. Strict rules apply on the movement of livestock from elsewhere in the EU; please contact your local APHA office to check current rules before embarking on any movements.

Q9. What is the treatment for Bluetongue?

As Bluetongue is a viral infection there is currently no direct cure.

Animals affected by Bluetongue can recover though their productivity may be significantly affected. Some will require supportive treatment. Where necessary antibiotics can be used to control secondary infection and anti-inflammatory drugs can also be used.

Affected animals may need softer feed supplies, protection from weather and additional bedding. Your veterinary surgeon can advise on the necessary supportive therapy.

Q10. What happens to the animals affected by Bluetongue?

Animals that become infected may be only mildly ill. Other infected animals can be more severely affected. Information from the outbreaks of BTV 8 in continental Europe indicate the typical mortality rate in sheep is around 30% and in cattle it is much lower, 1% – 5%. These levels could be different in the UK as breed and management can affect how severe the disease is.

Affected animals can be slaughtered and keepers may be advised by their vet to kill the affected animal on welfare grounds. Many Bluetongue infected animals recover but their condition and yield may be impaired. Abortion can occur if animals become infected in later pregnancy.

Once recovered from infection, livestock are likely to be immune to infection from that particular strain for a number of years. However, they will be susceptible to another strain of the disease should that be circulating in the country. BTV 1, 6, 8 and 11 have all previously been detected in Northern Europe.

Q11. What time of the year is Bluetongue likely to be at its most prevalent?

Vector season for Bluetongue is considered to be between April and November. APHA will provide fortnightly reports throughout the vector season. The adult midges mostly die off in the winter period. The developing larvae and pupae survive over the winter and new adults emerge in the spring. There can be several generations each summer if conditions are favourable so that the numbers build up to the autumn peak. September is the month of greatest activity.

Q12. How does virus transfer between the midge and the ruminant animal?

When a midge bites an infected animal, the virus passes to the midge in the blood meal and the virus multiplies in the midge. The cycle of replication of the virus, in the insect vector and in the ruminant host, results in amplification of the amount of virus available to uninfected naive hosts and vectors. The midge, being a cold blooded animal can only multiply the virus when the environmental temperature is above 15°C. The virus is not passed from the adult midge to the next generation through the eggs; new adult midges only become carriers through feeding on an infected animal.

Q13. What distances do midges infected with Bluetongue travel?

The species of *Culicoides* midge which has acted as a vector for disease in the North European outbreak are different from the species which have traditionally acted as the vector in Southern Europe and Africa.

From initial studies it can be roughly estimated that a midge can travel up to 1.5km – 2km a day in a local area. However, if caught in suitable meteorological conditions midges can be carried much farther distances, especially over water i.e. more than 200km. These details are an approximation and may vary according to local environmental, topographical and meteorological conditions.

Q14. Does Bluetongue pose a risk to human health?

Bluetongue is an insect-borne viral disease which affects all ruminants, such as cattle, goats, deer, llamas, alpacas, guanaco, vicuna, camels and in particular sheep. Bluetongue does not affect humans. There is no risk to human health.

Q15. Have there been outbreaks of Bluetongue in Great Britain in the past?

An outbreak of Bluetongue was recorded in Great Britain in 2007.

Q16. What plans does the Welsh Government have in place to deal with an outbreak of Bluetongue?

Plans to deal with an outbreak of Bluetongue are contained in the UK Bluetongue Control Strategy which was developed in conjunction with DEFRA, other Devolved Administrations, experts and the farming industry. A copy can be found on the DEFRA website:

<https://www.gov.uk/government/publications/bluetongue-gb-disease-control-strategy>

The Strategy has been revised and reflects lessons learned since its original publication in August 2007, addresses new risks, and reflects and the risks of incursion by new serotypes.