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Bluetongue Virus Update

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National Disease Control Centre

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DAFM urges livestock keepers to be vigilant as rising temperatures bring an increase in midge activity and Bluetongue transmission risk

- Bluetongue virus is spread by infected **biting midges** (*Culicoides species*) which are present in Ireland and are generally most active between **April and November**.
- **As temperatures begin to rise in Spring and into Summer, the risk of Bluetongue transmission in Europe increases.**
- **Temperature increases result not only in an increase in midge activity, but also the ability for Bluetongue virus to replicate in the midge. Midge activity increases above 4°C. Bluetongue replication can only occur above 12-15°C. Together, these factors can increase the risk of Bluetongue transmission.**
- It is critical that over the coming months, **all livestock farmers maintain vigilance** for any suspicions of Bluetongue virus (BTV), and report any such suspicions to their local [Regional Veterinary Office \(RVO\)](#) without delay.
- **Ireland is currently BTV free**, disease could spread to Ireland and circulate through **import of infected animals, infected foetuses, germinal products or wind dispersal of infected midges** from mainland Europe.
- Bluetongue serotype 3 (BTV-3) continues to pose a risk in Northern Europe. BTV-1, 4 and 8 continue to circulate in Southern Europe.

Emergency authorisation of newly developed Bluetongue serotype 3 (BTV-3) vaccine in The Netherlands

- In The Netherlands, a vaccine against BTV-3 produced by Spanish pharmaceutical company 'Syva' has been authorised for emergency use under Regulation (EU) 2019/6 Article 110 (2).
- The pharmaceutical company has tested the effectiveness of the vaccine on an animal model funded by the Ministry of Agriculture, Nature and Food Quality and developed by Wageningen Bioveterinary Research (WBVR).
- It is expected that 1 million doses of vaccines will be available for the Dutch market within a week, with a second batch of 1 million vaccines available in two weeks' time.
- **The aim is that this preventative vaccination strategy will provide widespread protection to susceptible species before the summer period when midge activity is at its highest.**
- The vaccine is suitable for use for both sheep and cattle. A single vaccination is required to protect sheep from BTV-3. Two vaccination doses a few weeks apart are needed for cattle to provide optimal protection.
- This vaccine has not yet received EU wide authorisation for use, nor is it currently available outside of The Netherlands.

NOTE

Vaccination for BTV-3 has been authorised as an emergency measure in the Netherlands. BTV-3 vaccine is not currently widely, commercially available

BTV-3 in England Update: End of the seasonal low vector period.

- **As of 19th April 2024, the Department for Environment, Food and Rural Affairs (DEFRA) has announced that Great Britain is no longer in the seasonal low vector period, as warmer Spring weather approaches.**
- There is no evidence that Bluetongue virus is currently circulating in midges in Great Britain.
- Farms in England close to the coast (particularly in counties Norfolk, Kent and Devon) are at the highest risk of disease incursion resulting from midges moving into the area from infected regions of mainland Europe.
- The Animal and Plant Health Agency (APHA) and the Pirbright Institute identified the first case of the disease in November 2023 through Great Britain's annual bluetongue surveillance programme.
- As of 15th March 2024, there have been 126 Bluetongue cases (119 cattle, and 7 sheep) reported in England on 73 premises in 4 counties. No additional cases have been reported since. All positive cases across England were detected through active surveillance (testing) and in each case the animal was confirmed BTV-3 positive through RT-PCR and ELISA tests. No positive cases displayed clinical signs.
- There are no current Bluetongue control zones in force.
- Some animals which tested positive at premises in the south and east of England remain under specific Bluetongue restrictions (entire males, pregnant females).

Movement of susceptible species from Great Britain

Movement of Bluetongue susceptible animals from GB to Ireland continues to remain suspended.

- **Currently, Bluetongue susceptible animals cannot fulfil certification requirements, specifically the animal health requirements necessary to allow movement from Great Britain into the European Union including to the island of Ireland.**
- **Germinal products (semen, embryos) may be imported into the EU once the relevant attestations for BTV can be met.** Movements from Northern Ireland are still permitted subject to all usual conditions.

Bluetongue situation: Ireland is entering a higher risk period for disease transmission

- It is critical that **all livestock farmers maintain vigilance** for any suspicions of this disease, especially as temperatures continue rise during Spring and Summer and report any such suspicions to their local [Regional Veterinary Office \(RVO\)](#) without delay.
- **Ireland is currently free of Bluetongue virus (BTV)**, which is a viral disease of ruminants and camelids that continues to be of **widespread concern across mainland Europe**.
- Bluetongue virus (BTV) is a notifiable exotic disease that infects ruminant animals (such as sheep, cattle, goats and deer) and camelids (such as llama and alpaca).
- **Bluetongue does not affect human health or food safety. However, if Bluetongue virus entered Ireland it would have serious trade implications for live animals and germinal products.**
- Bluetongue virus is spread by infected **biting midges** (*Culicoides species*) which are present in Ireland and are generally most active between **April and November**.
- The disease could spread to Ireland through **import of infected animals, infected fetuses or wind dispersal of infected midges** from mainland Europe. The virus can also be transmitted via infected germinal products (semen, ova and embryos).

Importers of Bluetongue susceptible species:

Key messages to prevent Bluetongue entering Ireland

1. Instead of purchasing Bluetongue-susceptible animals from mainland Europe, consider if there is another way you can achieve the breed/genetic changes you seek (e.g., via artificial insemination).
2. If you must purchase live animals from outside Ireland, only do so during times when midges are less active (Dec – Mar).
3. Only purchase animals, germinal or biological products from reputable sources. Animals from certain countries require vaccination against Bluetongue prior to import: proof of vaccination status should be obtained.
4. Ensure the animals are Bluetongue virus-free before they leave their country of origin by requesting a pre-movement PCR test for the virus. Although this can give a certain level of assurance, it is important to remember that animals may be harbouring the virus which is not yet detectable by laboratory testing, or they may become infected if bitten by an infected midge *en route*. All susceptible ruminants need to be tested after their arrival to Ireland even if they have had a negative pre-movement test.

5. Isolate imported animals indoors as soon as they arrive onto your holding and monitor them closely for any signs of illness. Biosecurity advice for farmers importing livestock can be found [here](#)
6. Ensure all animals arriving from mainland Europe are visited by an RVO vet within 5 days of arrival into Ireland.

Contact your [local RVO](#) for more information before deciding to import.

Movement of Bluetongue susceptible animals from GB to Ireland continues to remain suspended.

Situation in Europe (March 2024)

September 2023-March 2024: Netherlands:

Total number of confirmed cases of BTV-3 is 5996 (1575 clinical + 4421 PCR positive). Bluetongue spread rapidly and affected most of the country. Most severe clinical signs reported in sheep. On some farms mortality rates reached 30-50%. No additional cases have been reported in the interim. Recent research findings looking at the BTV-3 epidemic in the Netherlands (*Boender et. al, 2024*) found that in addition to short-distance dispersal of BTV by infected midges, other transmission routes including livestock transport probably played an important role.

October 2023-March 2024: Belgium:

7 outbreaks of BTV-3 confirmed on farms in Antwerp, close to the border (6.5km) with The Netherlands (Oct 2023-March 2024). BTV-3 was first identified in Antwerp on a small sheep farm. The Federal Agency for the Safety of the Food Chain (FASFC) started testing cattle farms for BTV-3 in December 2023. In January 2024, 2 outbreaks in cattle were reported bringing the total to 7 outbreaks.

October 2023-March 2024: Germany:

47 (43 cattle, 4 sheep) confirmed outbreaks of BTV-3 as of 07/02/2024). These outbreaks were in the two already affected areas in Länder: Lower Saxony and North Rhine-Westphalia.

August 2023-March 2024: France:

BTV-3 has not been reported in France. Two strains of BTV-8 have been confirmed. BTV-8 has been endemic in France since 2015, but a 'new strain' of BTV-8 was first reported in Aveyron in August 2023, with over 1,350 establishments affected with BTV-8 in southern regions. Severe clinical signs have been reported with this strain. Existing vaccines against BTV-8 are thought to remain effective against this new strain.

August 2023-March 2024: Spain:

Bluetongue continues to circulate in Spain despite a vaccination and an eradication programme. The Spanish authorities have put into place movement restrictions in several BTV affected areas to limit trade and improve surveillance. BTV-4 confirmed in cattle and sheep in northern and central Spain. BTV-4 responsible for outbreaks in Murcia was different to the BTV-4 circulating in the north of the country in December 2023. Genetic sequencing determined the strain to be of North African origin. A recent outbreak of BTV-4 was confirmed on 06/02/2024 south of Alicante, which was previously free from BTV.

BTV-1 detected in 2 sentinel farms in Cádiz (November 2023, previously detected in December 2021). BTV-1 was detected on 2 farms in Andalucía. Recent strains of BTV-1, 4 were determined to be of North African origin.

August 2023-March 2024: Italy:

Multiple outbreaks of BTV-3,4,8 have been reported across Sardinia. In Sicily there were outbreaks of BTV-4. In mainland Italy, there have been multiple reported outbreaks of BTV-4 and a single outbreak detected BTV-8 in December 2023 for the first time. Samples from the BTV-8 outbreaks in Sardinia and mainland Italy were confirmed to be the 'new strain' which has spread across France.

Further Information on Bluetongue

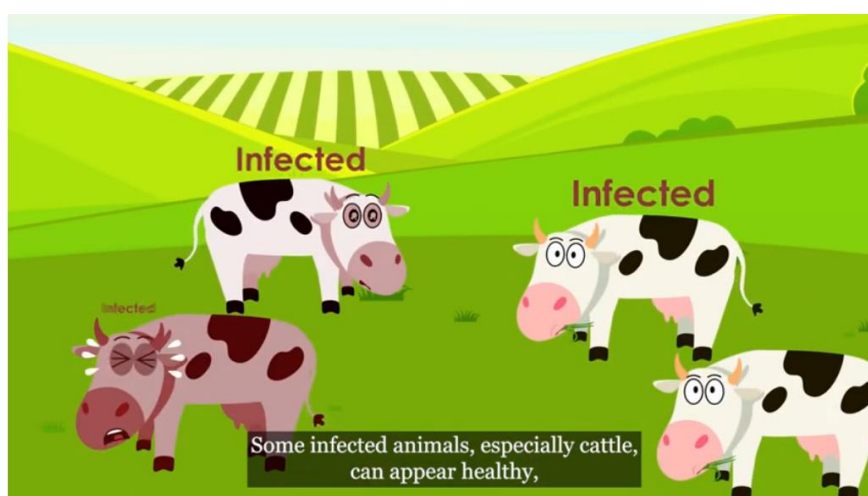
- Bluetongue can affect all ruminant species and camelids. Cattle, sheep, goats, deer, llamas and alpacas are species found in Ireland which could become infected.
- Potential routes of entry into Ireland include:
 - Import of an infected animal (including infected foetuses).
 - Import of infected biological material (e.g. blood) or germinal products (e.g. semen or embryos).
 - Weather conditions allowing for infected biting midges to be carried on the wind to Ireland from Bluetongue affected countries.
- Sheep are more likely to show obvious and more severe clinical signs of Bluetongue than cattle if they become infected, and mortality rates can reach 30- 70%. Some animals may not show any clinical signs however, and these animals can pose a risk for spreading the disease to new areas or countries.
- Bluetongue virus is spread by infected **biting midges** (*Culicoides species*) which are present in Ireland and are generally most active between **April and November**. Activity levels are dependent on average temperatures, so mild weather conditions may see midge activity persisting for longer.
- The incubation period of Bluetongue virus is approximately 2 weeks.
- Once the virus enters the midge population, eradication is almost impossible.

- A wide range of **clinical signs** are associated with Bluetongue, such as:
 - Fever
 - Inappetence (loss or lack of appetite)
 - Drop in milk yield
 - Reddening of the mucus membranes
 - Sores on the nose, gum and dental pads
 - Swelling of the face, lips and tongue (i.e. “Bluetongue”)
 - Breathing difficulties if the tongue swells
 - Drooling
 - Discharge from the eyes and/or nose
 - Lameness
 - Abortion or deformities in offspring/foetus’
 - In severe cases, death can result

Images of the clinical signs of bluetongue virus in sheep and cattle can be found [here](#)

- Due to the similarities/deformities that can result from Schmallenberg virus and Bluetongue virus in offspring/ aborted foetuses, carcasses submitted for post-mortem to Regional Veterinary laboratories will be tested for Bluetongue virus. There are no costs to farmers associated with this additional testing.
- Farmers, veterinary practitioners and other relevant stakeholders should remain vigilant for Bluetongue transmission.
- Bluetongue is a notifiable disease, therefore, any suspicion of disease must be reported to the local [Regional Veterinary Office \(RVO\)](#) without delay.

Figure 1 Watch a short video on ‘How to keep Bluetongue out of Ireland’ by clicking [here](#)



[Watch this video to learn more about ‘How to keep #Bluetongue out of Ireland’](#)

Further information on Bluetongue

Please consult the following resources for further information on Bluetongue virus:

- [Dept of Agriculture Food and the Marine website](#)
- [European Commission webpage on Bluetongue](#)
- [Bluetongue - WOAAH - World Organisation for Animal Health](#)

References

- [15 March 2024: updated outbreak assessment for Bluetongue virus in Europe - GOV.UK \(www.gov.uk\)](#)
- [Bluetongue virus – Latest situation: End of the seasonal low vector period - GOV.UK \(www.gov.uk\)](#)
- [Probably multiple transmission routes involved in 2023 spread of bluetongue - WUR](#)
- [Weekly international health watch bulletins for 06/02/2024 \(plateforme-esa.fr\)](#)
- [Dutch authorities approved the use of the vaccine against bluetongue serotype 3 developed by Laboratorios Syva - Syva](#)
- [Bluetongue virus vaccine approved for use | News item | Rijksoverheid.nl](#)
- [KNMvD calls veterinarians for bluetongue vaccination - Nieuwe Oogst](#)

Please be alert and remain vigilant for Bluetongue transmission if you are involved with ruminant and camelid species.

**National Disease Control Centre
29th April 2024**