



# WHAT ARE THE TRUE RISKS TO YOUR FLOCK OR HERD

Bluetongue virus (BTV) is an infectious, vector-borne viral disease. It affects wild and domestic ruminants such as sheep, goats, cattle, deer and camelids. The first case of BTV-3 in the UK was confirmed in England on November 10, 2023. The bluetongue virus serotype 3 (BTV-3) outbreak in the Netherlands in 2023 caused severe clinical signs and death in ruminants. The clinical signs observed in affected animals during the 2023 BTV-3 outbreak seem to be more severe than those observed during the BTV-8 outbreak between 2006 and 2008.

- The virus is transmitted by biting midges.
- The current BTV outbreak in England and Wales is caused by BTV-3.
- Sheep are highly susceptible, morbidity can be as high as 100%. Mortality rates in flocks averages are 2-30% but can be as high as 70%.

## TRANSMISSION:

Vector-borne transmission:

- The main mode of transmission is through the bite of infected *Culicoides* midges.

Midge activity:

- Midges are most active during warmer months (April to November), which aligns with the period when bluetongue outbreaks are most common.

Animal movement:

- Movement of infected animals, including ruminants and camelids, and their germinal products (semen, ova, embryos) can spread the virus to new areas.

Mother-to-offspring transmission:

- BTV-3 can also be transmitted from a pregnant animal to its offspring

## SEASONALITY:

- Seasonal disease due to seasonality of midge population - making it predictable
- Vaccination will be most effective if given before the vector high period- you need 3 weeks from (last dose) vaccination to be protected
- Classical BTV generally comes in 3 - 4 year waves
- Wise to vaccinate during waves to reduce economic impact

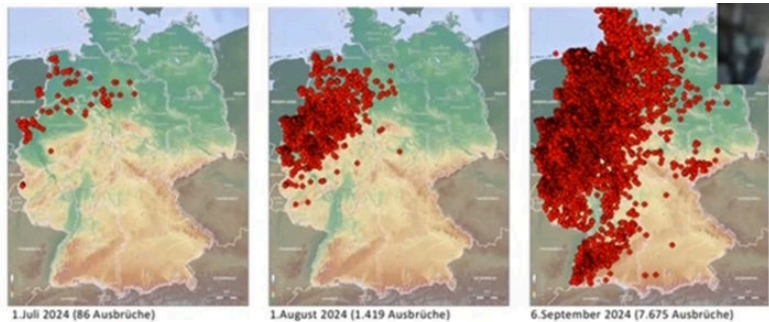
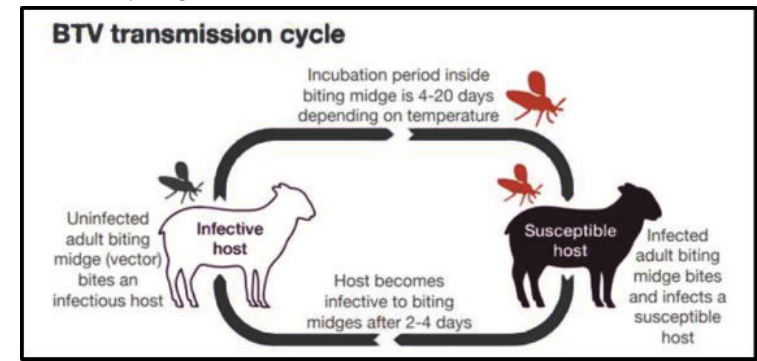
## THE SPREAD:

### Requires a vector

- Direct animal to animal spread not possible
- Main vector is *Culicoides* midge (*C. obsoletus* in UK)
- Requires constant temperature >12 deg C to allow transmission
- Midges advance 2 - 8km per day
- Wind plumes can accelerate spread in to new areas

### Biosecurity - is key to slow spread

- Moving infected animals can move virus to new areas
- Moving infected midges can move virus to new areas
- Needles - blood contamination in particular - if injecting groups of animals for any reason during bluetongue season, change needles frequently - at least every 5 animals
- Germplasm is also a risk - BTV-3 in semen



## NORTHERN IRELAND

**Northern Ireland has now been authorised to use inactivated Bluetongue vaccination for emergency pre-emptive use.**

The use of an inactivated vaccine does not impact the movement of live animals within the EU.

Therefore, animals vaccinated with the approved inactivated vaccines can continue to be exported for breeding and production purposes under NI Bluetongue Freedom. These animals will still meet the requirement of not having been vaccinated with a live vaccine.

## WHY ARE WE SEEING DIFFERENT PRESENTATIONS OF THIS ACROSS THE UK:

- Not linked to virus itself - structure of BTV-3 virus has not significantly altered from Europe to UK
- Observation of more severe clinical signs in individuals as infection rate within a herd and within an area increases
- Possibly linked to viral load in the local midge population and therefore linked to local livestock density
- Initial outbreak in the Netherlands was in an area of high livestock density, entry into the UK was in a very low livestock dense area - this will quickly change
- Message from abroad - do not wait for mammalian carriers to amplify the severity of an outbreak, vaccinate promptly!



**CLINICAL SIGNS:**

**SHEEP**

- Death
- Fever
- Breathing Problems
- Discharge from eyes/ nose and mouth
- Swelling of lips/ tongues or coronary band
- Red Skin
- Abortions, foetal abnormalities and poor conception rates

**COWS- GENERALLY:**

- Abortions, foetal abnormalities and poor conception rates- dummy calves?
- Nasal Discharge
- Fever and Lethargy
- Teat Defects
- Redness around hooves and lameness
- Milk Drop

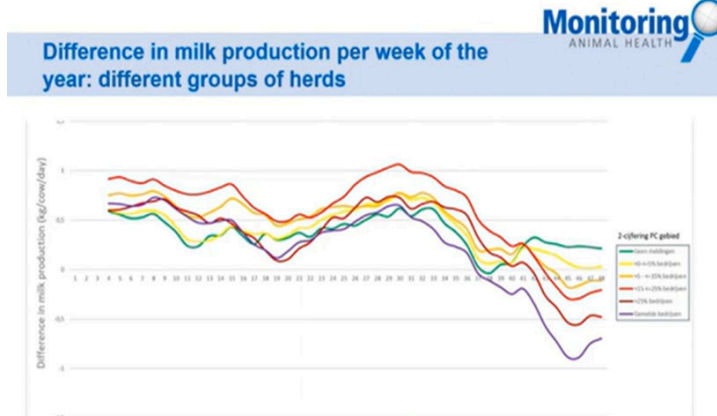


**COWS- DAIRY**

- Plus significant milk drop for up to 9 weeks (1kg per cow per day)
- In the Netherlands in 2023, there was a significant impact on the dairy sector, 1.15kg/cow/day drop in milk production 100 cow herd ~8,000kg of milk during an outbreak period
- Increase in high and bulk somatic cell counts

**COWS- SUCKLER**

- Production is KEY- with or without clinical signs
- SUMMER- clinical signs
- AUTUMN- fertility issues
- WINTER- abortions and empty cows
- SPRING- empty cows, abortions, stillborn, deformities and poor viability, Blindness / Neurological



**TREATMENT OPTIONS:**

- NSAIDs injection – CAN BE GIVEN ONCE ONLY
- Supportive fluid therapy
- B vitamins
- Antibiotics for secondary infections Steroids?
- Antihistamines tried in Europe but they found that actually it increased the death rate
- Long term complications- barren cattle, dummy calves (see clinical signs)
- Prompt euthanasia must be considered for the most severely infected animals on welfare grounds
- Only known treatment is to PREVENT with Vaccination

**VACCINE:**

Bultavo 3 most widely used

- Inactivated adjuvated vaccine
- Vaccination allowed under general licence (not NI currently)
- Records of sale and use must be reported to APHA by vet practice and owner
- Highly effective

Licensed to

**SHEEP**

- Active immunisation to reduce viraemia and prevent clinical signs and mortality caused by BTV3
- Single 1ml S/C dose 3 weeks from 1 month of age
- Lambs of vaccinated dams should not be vaccinated until 3 months

**CATTLE**

- Active immunisation against BTV3
- 2 x 1ml I/M doses administered 3 weeks apart
- Calves of vaccinated dams should not be vaccinated until 2.5 months

>15 million doses sold in Europe since May 2024, zero adverse reaction reports or reports of deaths in vaccinated animals



**ORDER NOW**