A Vet update

“Why does it always rain on me?!”

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SRUC Veterinary Services
11th Feb 2026

Agenda

Climate change and parasitic disease

- Liver fluke
- Haemonchus
- Nematodirus

Vector borne viral diseases

- Schmallenberg
- Bluetongue

Changes in climate/environment and animal health

Weather

Milder/warmer

- Worms e.g. Haemonchus, Nematodirus, later fluke season
- Ticks and tickborne diseases
- Midges and midge-borne viruses (SBV, BTV)

Wetter overall

- Worms, incl. lungworm, and fluke

Dryer/hotter summer spells?

- Nutrition
- Less worms over summer/movement of parasite seasons

Changes in climate/environment and animal health

Land Uses

We'll just need a bit of adaptability....

"It is not the strongest of the species that survives, nor the most intelligent that survives;
It is the one that is the most adaptable to change." - Charles Darwin

Changing trends in parasites

- Liver fluke (and rumen fluke)
- Haemonchus
- Nematodirus/Lungworm

Be aware of difficulties with tick control, and tickborne diseases like Babesia (redwater) in cattle, and louping ill and tickborne fever in sheep.

Info sources:

- **Moredun** booklets – tickborne disease, and louping ill
- **Scotland's Farm Advisory Service (FAS)** – tickborne disease webinar

Liver fluke

- 2012-2013 – The Flukepocalypse
- 2012-2018 –not much better in Ayrshi

Beast from the east.

- Farmer adaptability saves the day!

- What do we need to know now?
- It’s still changing, 14 years later

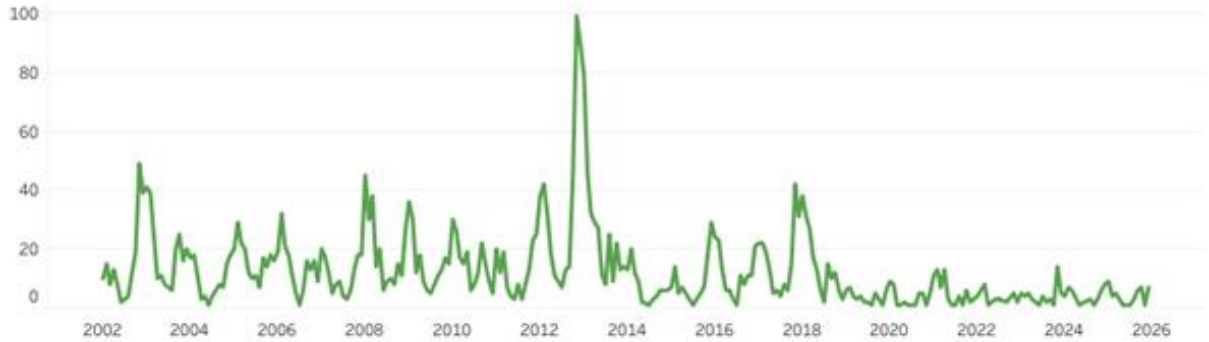
GB Ruminant Disease Surveillance Dashboard: SHEEP

aware of the sensitivity and confidentiality of the data you retrieve, and do not share it inappropriately, especially outside the Agency and SRUC.

Select level of date granularity
(applies only to the distribution over the years chart)
Month

Show
Trend over the years

Distribution over the years / Seasonality



Display Where from? as
Map

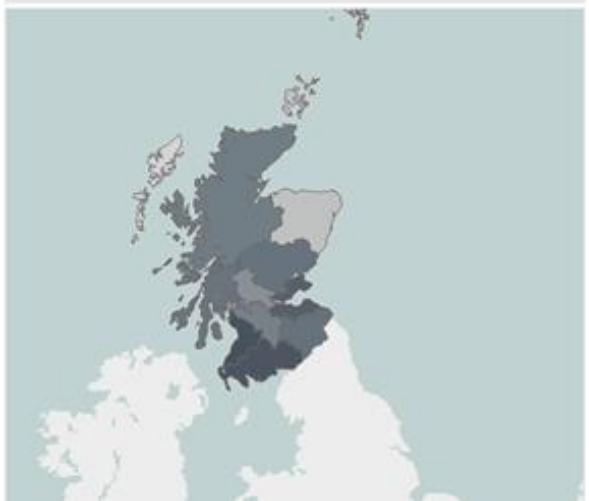
Choose Region
Scotland

Location
All

Diagnosis Quick Search
Multiple values

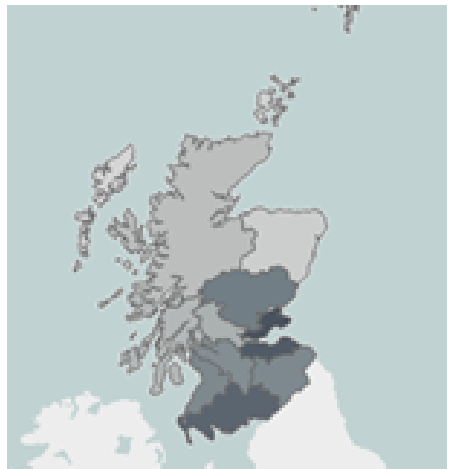
Display diagnoses as
Table

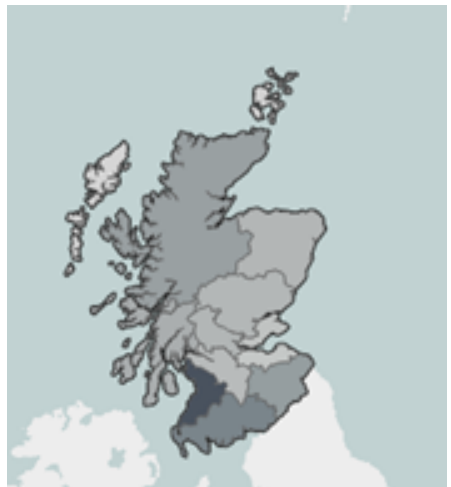
Where from? (hover over a county to see the detailed information)

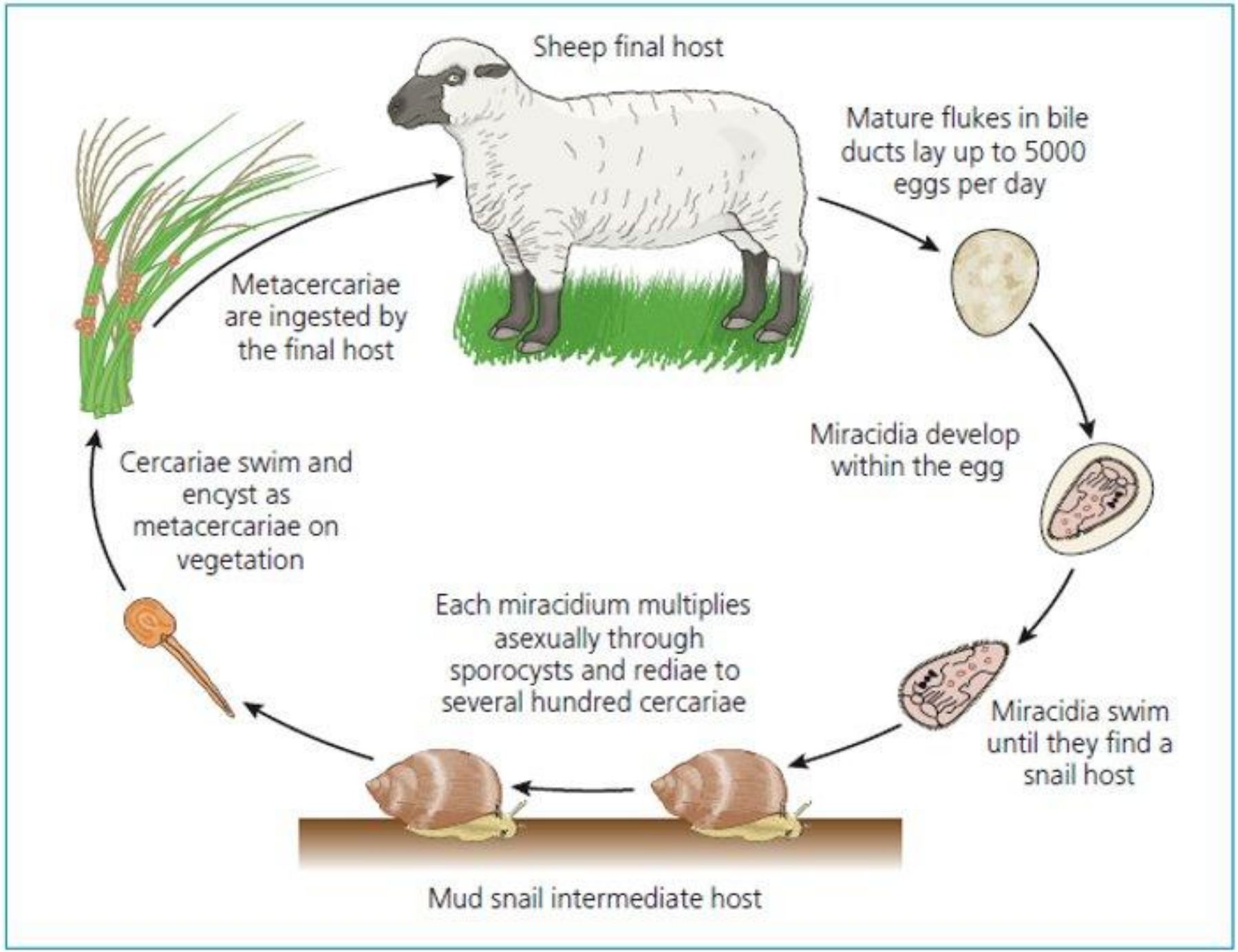


Number of Diagnoses

Chronic fascioliasis (373)	2,861
Acute fascioliasis (372)	621






Sheep final host
Mature flukes in bile ducts lay up to 5000 eggs per day
Miracidia develop within the egg
Miracidia swim until they find a snail host
Each miracidium multiplies asexually through sporocysts and rediae to several hundred cercariae
Mud snail intermediate host
Cercariae swim and encyst as metacercariae on vegetation
Metacercariae are ingested by the final host

Fluke Lifecycle

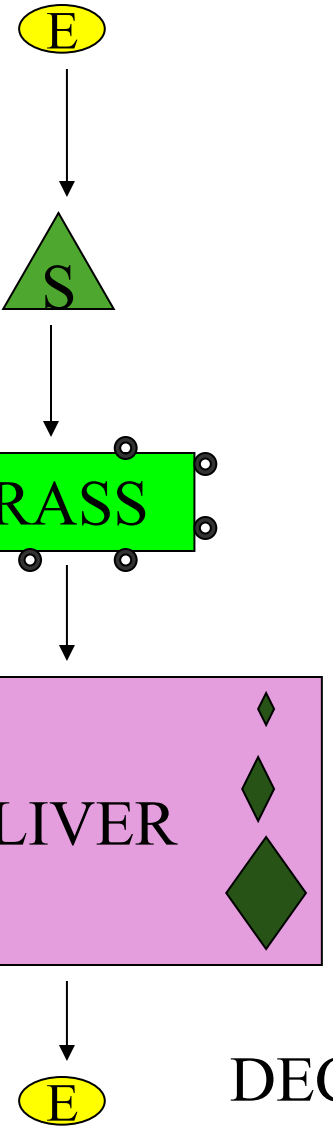
MAY

JULY

SEPTEMBER

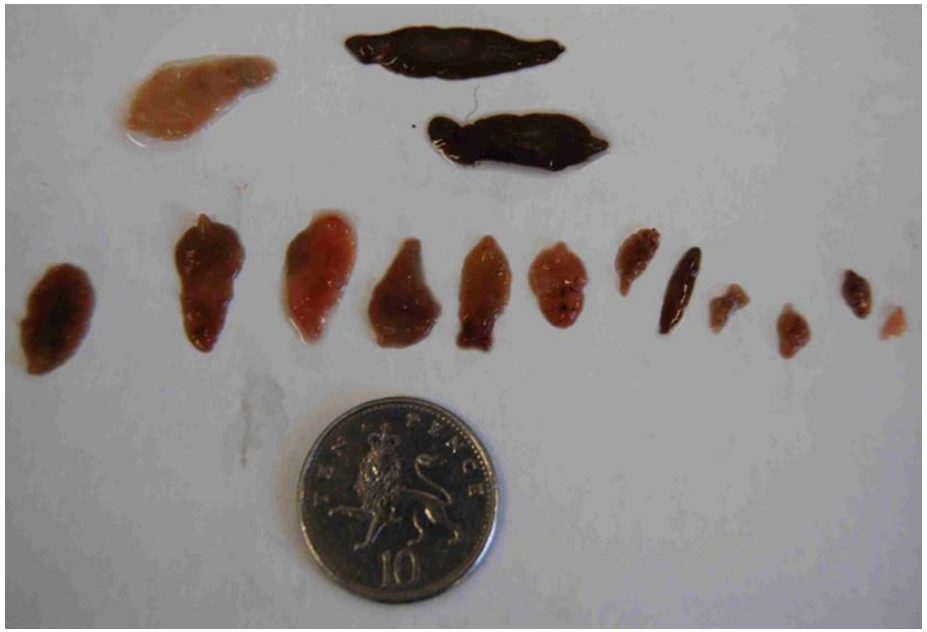
OCTOBER

DECEMBER



DECEMBER ON

WILDLIFE



Seasonal pattern - Sheep

Spring/Summer - Disease dependent on:

- Overwintered burden in sheep/snails/on pasture

Chronic fluke =

Weight loss, anaemia, bottle jaw

Autumn/early winter - Disease dependent on:

- Weather: warm speeds up life cycle and wet increases snail numbers – increased burden on pasture

Acute fluke

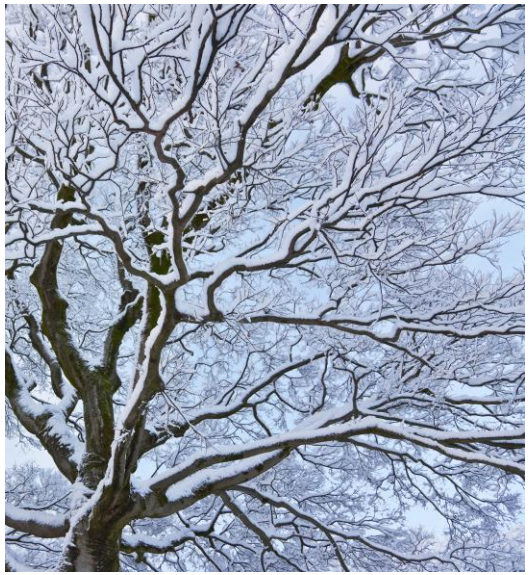
High numbers of immatures – death

Winter - Disease dependent on:

- Overwintered burden in sheep and ongoing pasture burdens

Subacute/chronic fluke =

Acute weight loss, anaemia (pale) and pain



Changing patterns

2023 had a late fluke season with limited disease or positive tests.

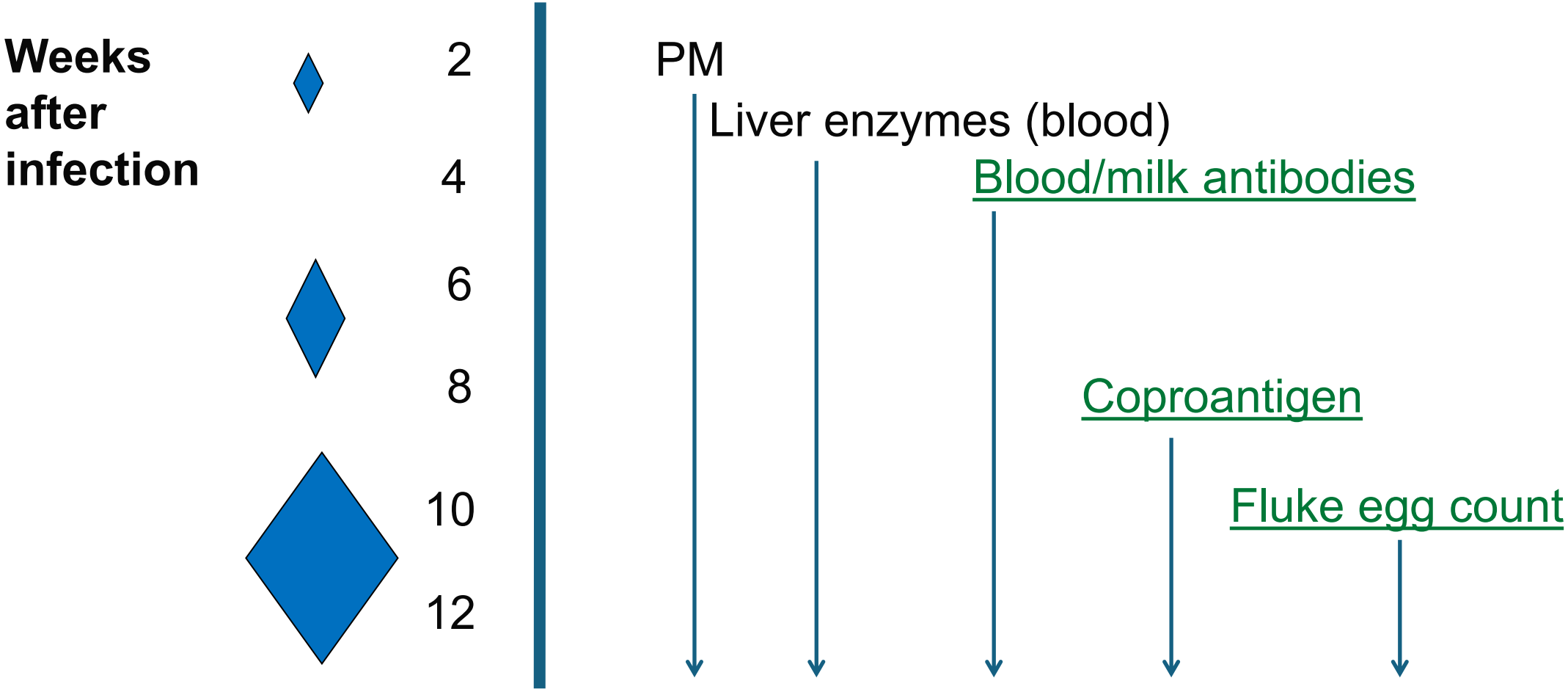
- Test positives started to increase from January.

2025-2026 looks similar pattern with limited cases at PM seen in Scotland and wider UK.

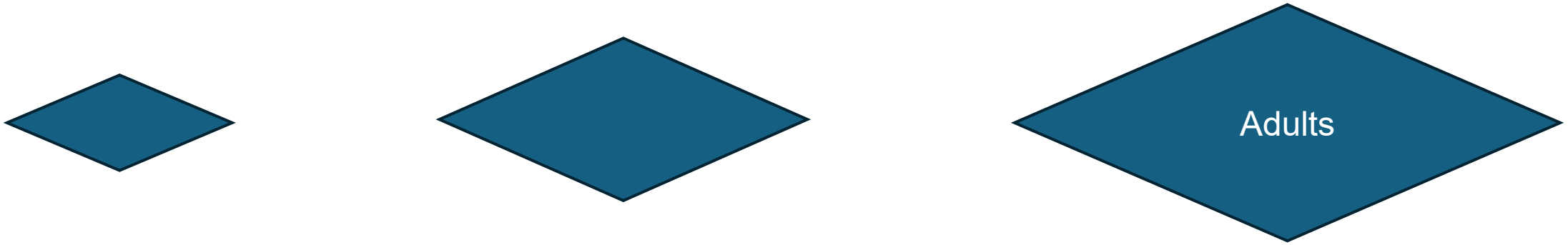
- Be aware of non persistence of products
- If treated in Autumn may have been too early

TEST DON'T GUESS

Test Timeline



Options of actives



TRICLABENDAZOLE

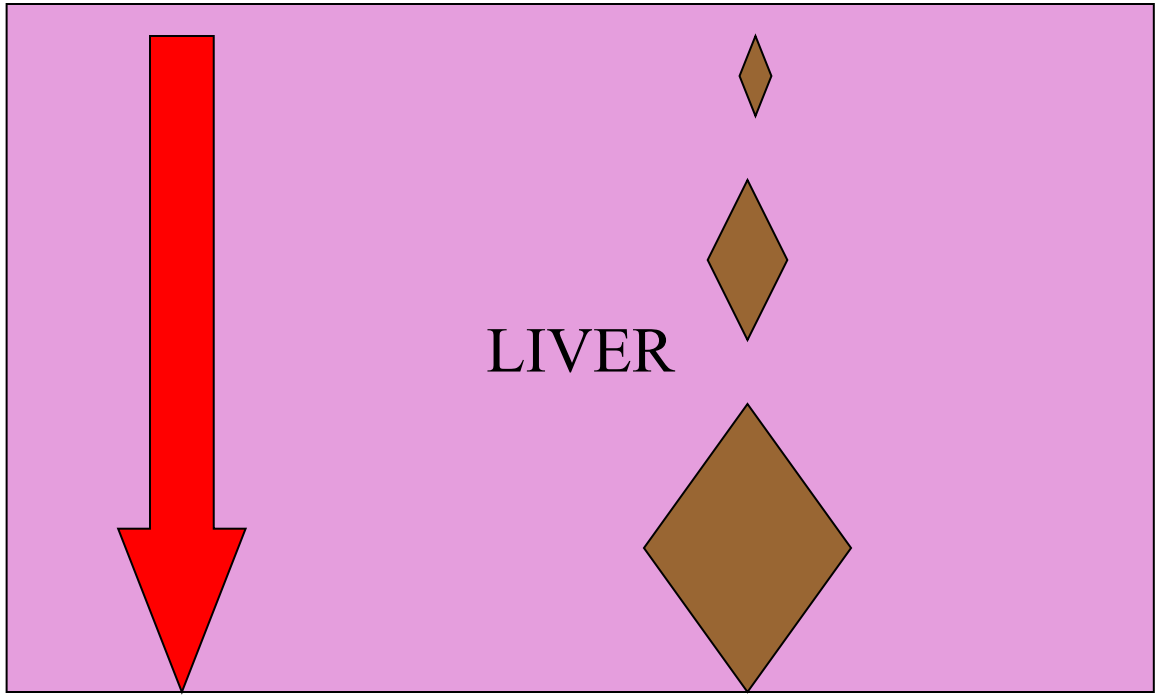
CLOSANTEL & NITROXYNIL

NB – no persistence so always a risk of reinfection!

CLORSULON
ALBENDAZOLE
OXYCLOZANIDE

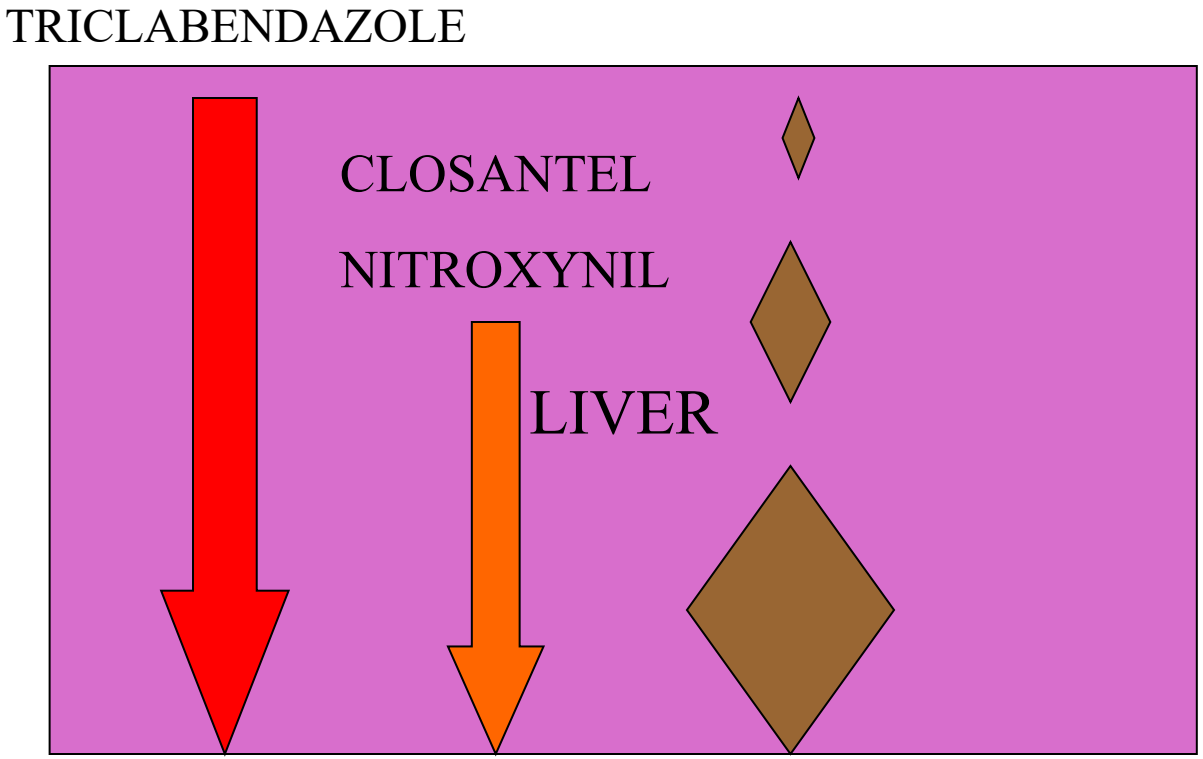
When To Treat?

TRICLABENDAZOLE

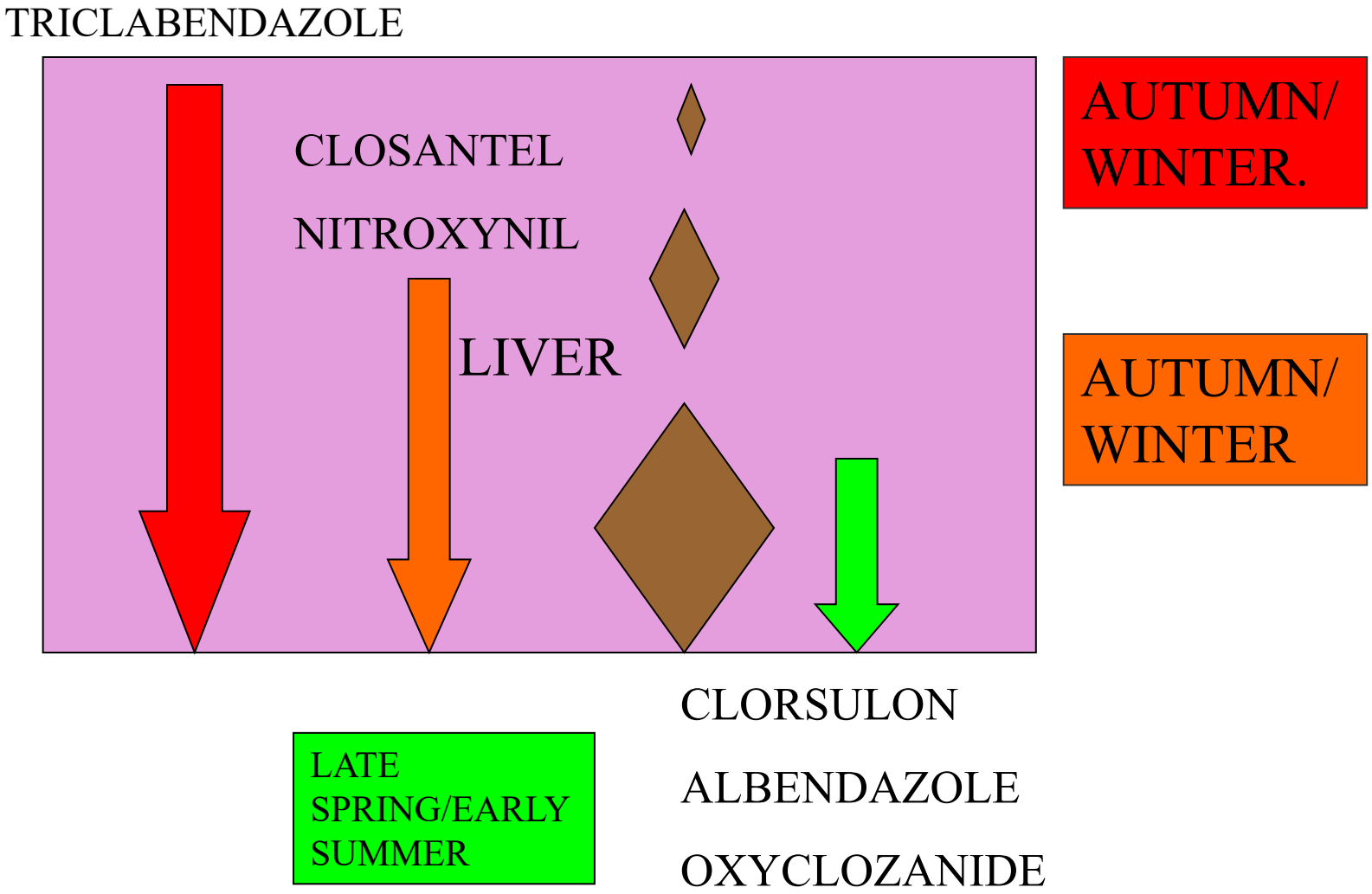


AUTUMN/
WINTER

When To Treat?



When To Treat?



The changes, and take-home tips

- Fluke risk season extending later into winter – dry May-July reduces risk and pushes risk later
- Treating too early?
  - Wasted money
  - No persistent action – so then get damage later

Treating an insufficient number of times? Wet summer increases risk

- Also risks damage, or increased pasture contamination in spring

- Discuss testing strategies with vet instead of automatic treatment?
- Fluke forecasts (e.g NADIS)
- Keep up with SCOPS (scops.org) and COWS (cattleparasites.org.uk) updates
- Moredun updates

Fluke management strategies

Integrated parasite control plan:

- Reduce pasture contamination in spring
- Reduce snail habitat on farm in summer
- Avoid exposure to fluke challenge in autumn
- Testing and strategic treatment in autumn/winter

Be aware of resistance - Triclabendazole

Rumen fluke - Should We Be Concerned?

- Commonly find large burdens of adult rumen fluke at PM of animals in good condition that have died of something unrelated.
- Scottish study of 339 slaughter cattle failed to show a statistically significant reduction in growth rate of rumen fluke infected cattle.
- The adult rumen fluke get their nutrition from the rumen contents.
- Outbreaks of fatal enteritis are rare so far

Rowanston

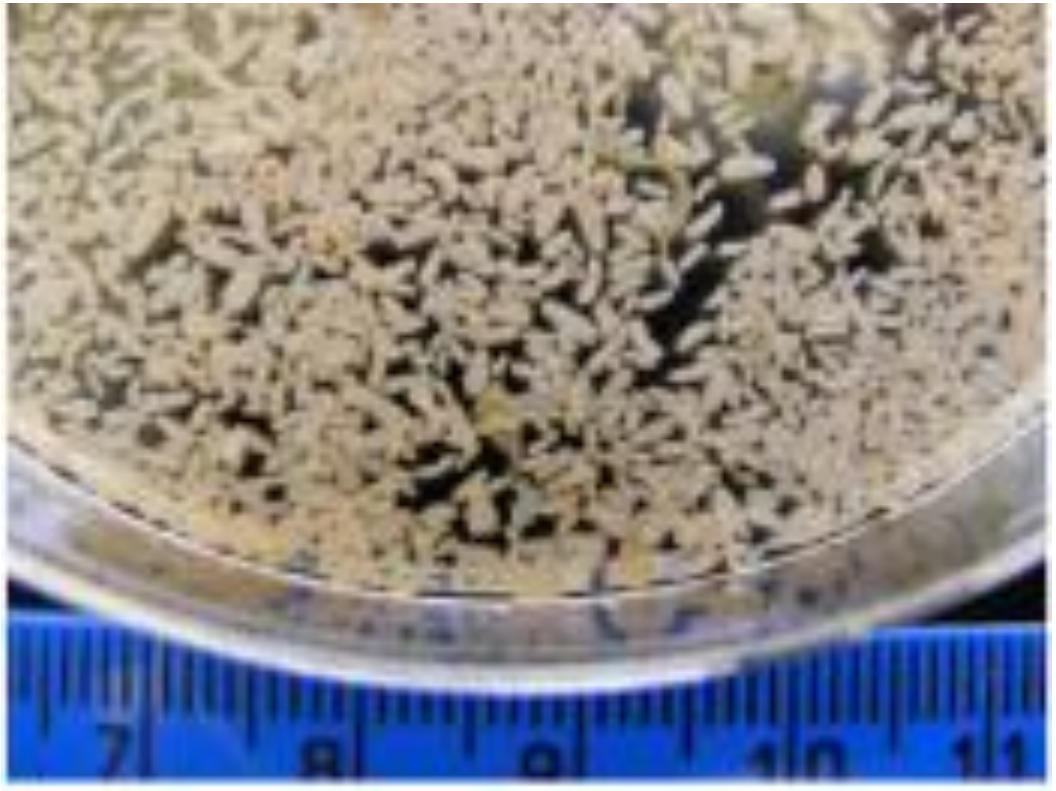
- 21/10/25: Owner reports has had batch of lambs with watery diarrhoea. 2 found dead and others in very poor condition. Dosed with Zolvix at start of August. Dosed with Fasimec duo 10-14 days ago. FWEC of batch of poor conditioned live lambs showed nothing. PM of dead lamb this morning – no abnormalities found on routine PM
- 23/10/25: samples arrived at lab
- 24/10/25: No worm eggs, liver fluke eggs or rumen fluke eggs detected. E. coli cultured
- 29/10/25: Border disease virus negative
- 31/10/25: Liver trace elements all within normal limits

Rowanston

- 04/11/2025: Histopathology - Intestine: Advanced autolysis. In one section of small intestine there are numerous parasite cross sections in the lumen and one in the wall. The appearance is consistent with rumen fluke.

- Summary/interpretation: The presence of large numbers of rumen fluke larvae in the upper small intestine and migrating through the wall fully explains the history of severe diarrhoea and death due to dehydration. In addition, the changes in the lung and liver are consistent with an acute systemic insult, possibly bacteria or toxins crossing the damaged intestinal wall."

Diagnosis of acute rumen fluke



LEARNING POINTS/TAKE-HOME MESSAGES
Rumen Fluke

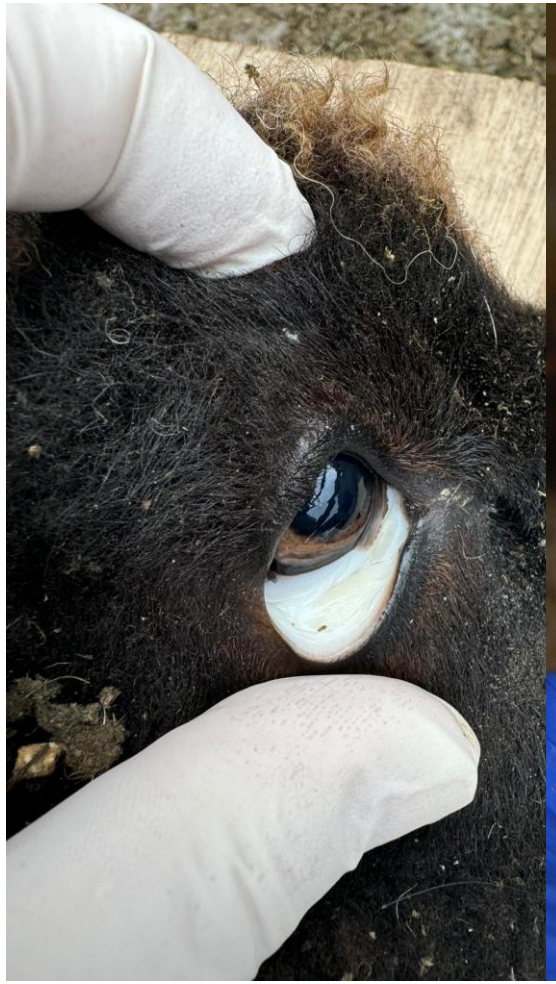
- Clinical disease is rare, infection is very common
- Clinical disease is often associated with the following signs:
  - Rapid loss of condition
  - Profuse watery scour
  - Dehydration + dullness
  - High morbidity and mortality can feature
- The immature rumen fluke are readily detected by the standard washes of the abomasum and small intestine used to diagnose parasitic gastroenteritis at postmortem examination.

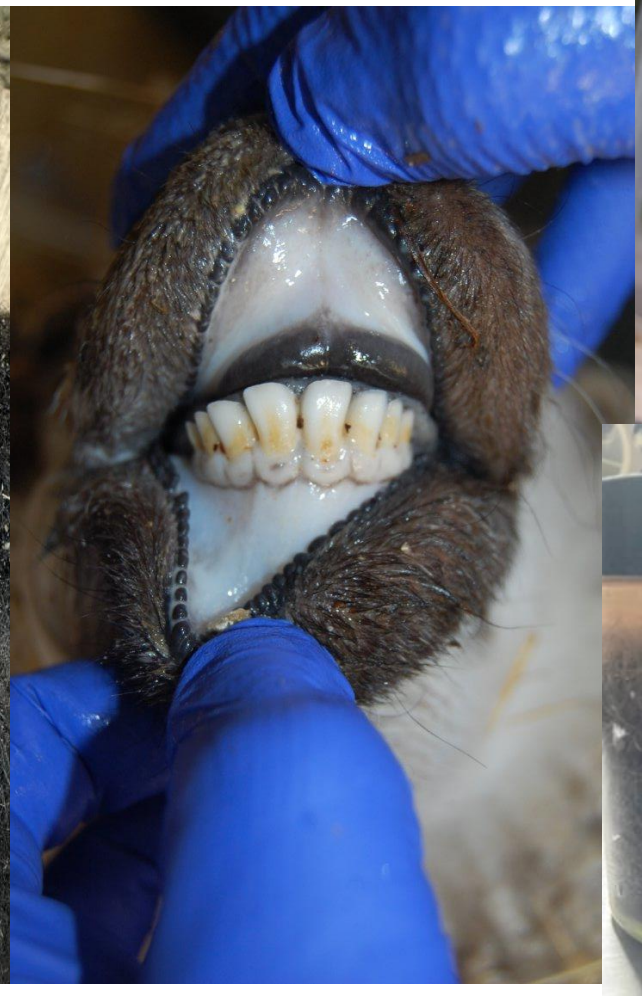
“Barber’s Pole” stomach worm – Haemonchus contortus

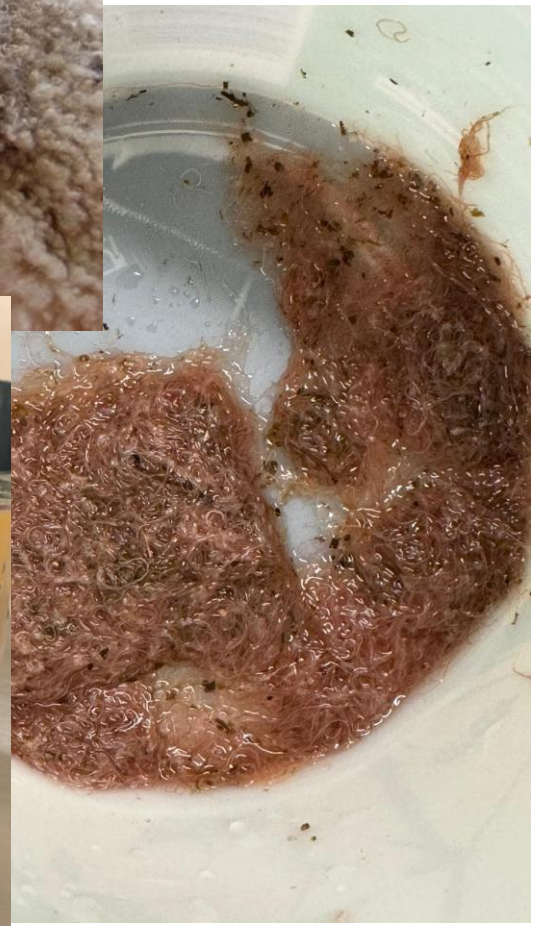
Haemonchus contortus

- Globally most important nematode parasite of sheep and goats
- Originally a tropical parasite – thrives in warm, wet climate
- Found commonly in England and increasingly in Scotland
- Info
  - Anaemia, low protein, sucks blood. Big infection causes disease, debilitation and death quickly.
  - Prolific egg layers: WECs often reach 5000-10,000 epg. Large numbers of infective larvae build up on your pasture fast.
  - Warmer, wetter weather, milder winters. No immunity, all ages develop disease.

GIT worms – Haemonchus



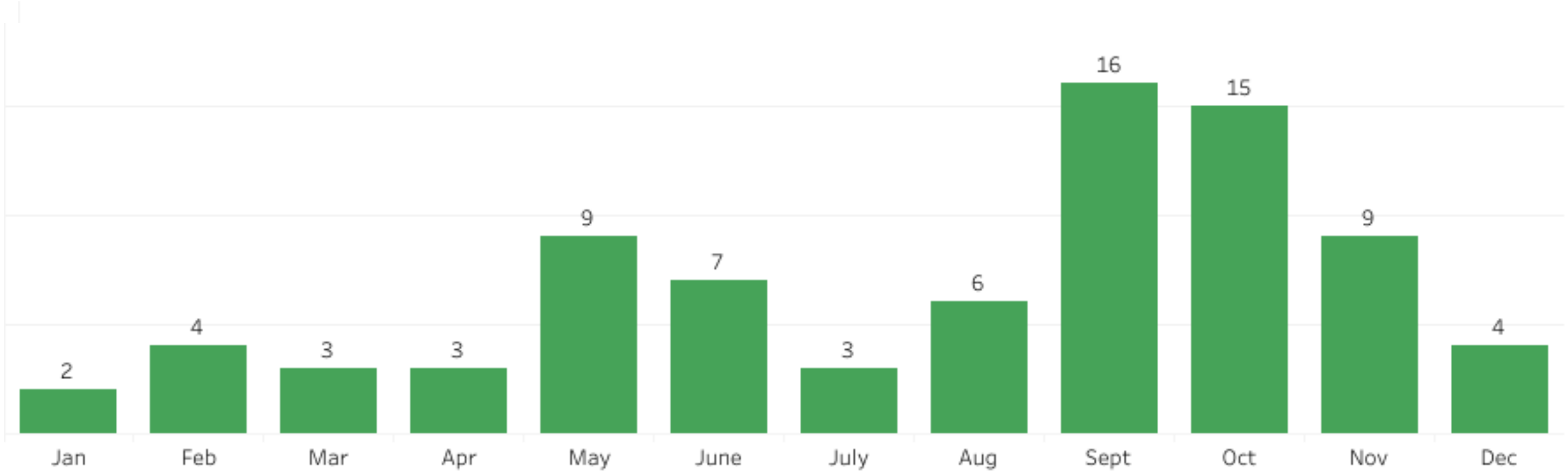




Nematodirus

- Associated with spring – mass hatch and naïve lambs
- Weather impact on when the hatch occurs (cold then >10)
- SCOPS forecast
- Lamb to lamb transmission with eggs surviving up to 2 years

Changing pattern ??



Lungworm

- Mainly an issue for cattle (Dictyocaulus viviparus)
- Sheep can get different lungworm – not the same ones, and usually much less of a problem unless very high numbers
- Affected by mild wet weather due to lifecycle
- Spread by fungus on cowpat - moisture
- Can’t leave a dry crusty pat
- **Sufficiently** exposed animals develop immunity
- Unreliable weather can exacerbate
- Wetter weather can affect previously less-affected parts of Scotland

Climate change and worms

- Increased temperatures = accelerated development
- This should in theory improve conditions for parasite transmission but:
  - Too hot/ too dry will increase parasitic mortality
  - Larvae become encased in dry faeces
  - Does not consider host factors
- Droughts impact on larval survival and re-emergence
- Milder winters can reduce the survival of some worms

Haemonchus moving up the country *

Warm and wet autumn can mean **high** autumn worm burden

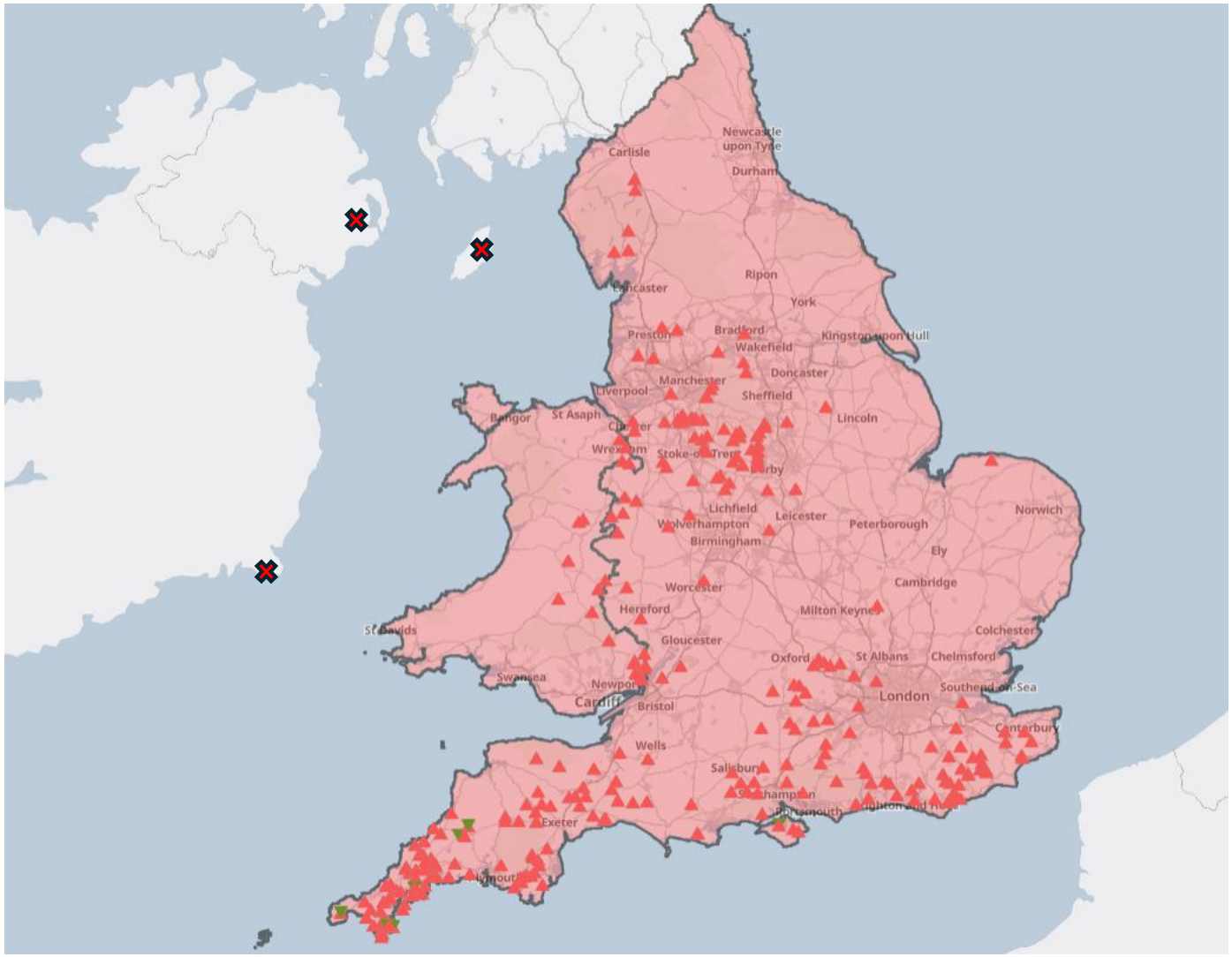
Changes to timing of Nematodirus hatch

Bluetongue

- Cattle, sheep, deer, goats, camelids (llamas and alpacas)
- 29 serotypes (BTV3, BTV-8, BTV-12)
  - Differing clinical signs and no known cross protection.
- BTV3 – Europe 2023 low number then significant case numbers in 2024
- First UK case 26th August 2024

NOTIFIABLE

Cases



As of 03/02/2026

Legend

Confirmed Bluetongue Cases since July 2025

Case Type

- BTV3 Report cases, surveillance and pre-movement testing
- BTV12 Report cases, surveillance and pre-movement testing
- BTV3 Tracings from the RZ
- BTV8 Report cases, surveillance and pre-movement testing

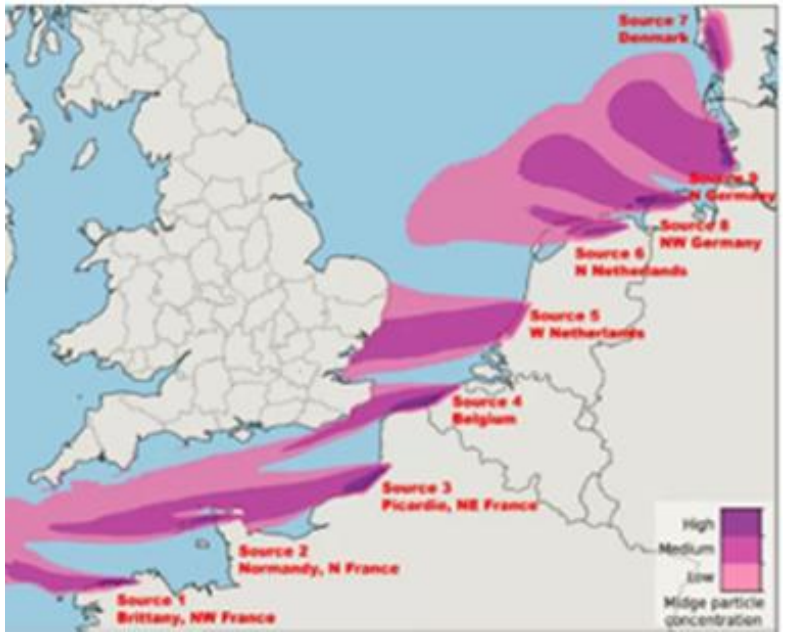
Spread of Bluetongue

- Midge bites are the most common way to spread the virus between susceptible livestock.
  - Can move a long way over water
  - Much more limited over land

- Movement and import of animals

- Semen, ova, embryos or foetuses

- Sharing needles



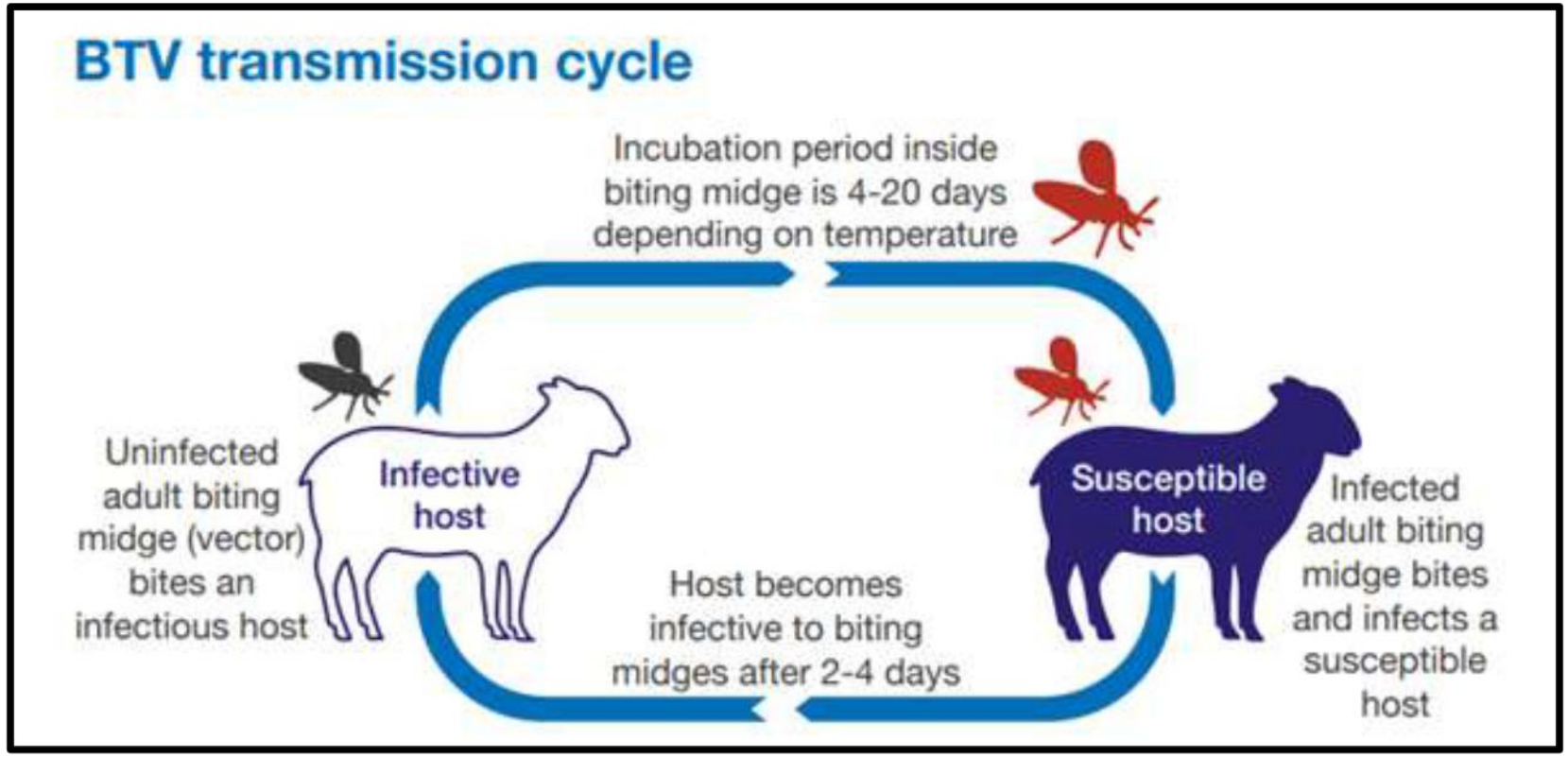
Bluetongue

- Calves, lambs, kids etc can be infected in the uterus - born small, weak, deformed or blind, are stillborn or die within a few days of birth

- Midges peak mid-late summer, and temp-wise, spread of BTV increases exponentially above 15°C (peaks at 22°C)

- Adult cattle and goats can be highly infectious for several weeks while showing little or no sign of disease.
- Mortality is high in clinically affected sheep

Life cycle


BTV transmission cycle
Incubation period inside biting midge is 4-20 days depending on temperature
Uninfected adult biting midge (vector) bites an infectious host
Infective host
Host becomes infective to biting midges after 2-4 days
Susceptible host
Infected adult biting midge bites and infects a susceptible host

Clinical signs (BTV-3)

- Severe in sheep
  - Netherlands reported significant mortality
- Easier to miss in adult cattle
  - Milk drop
- Breeding animals
  - Pregnant females– abortions/still births/neurological issues
  - Breeding males – fever, impact on semen

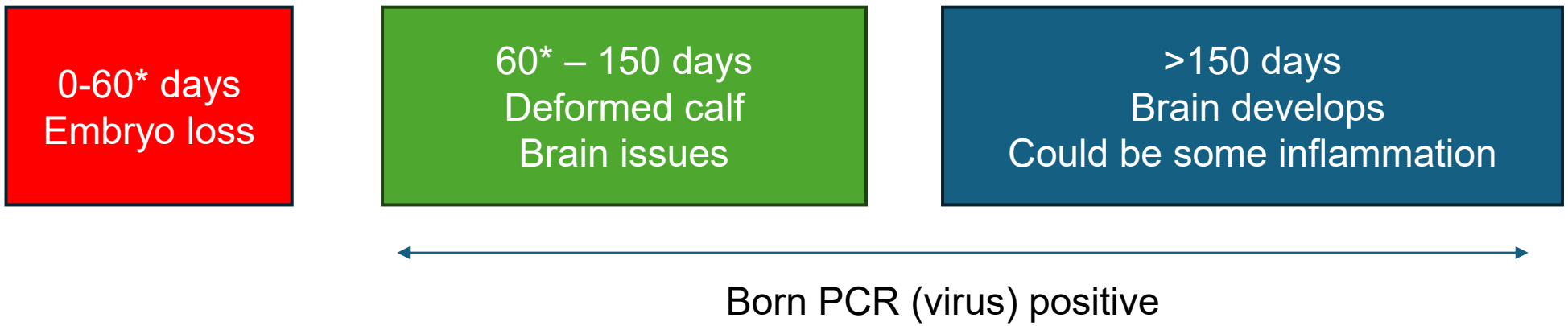
Be aware similarity to some FMD signs

Classic:
Redness/crusting around head region

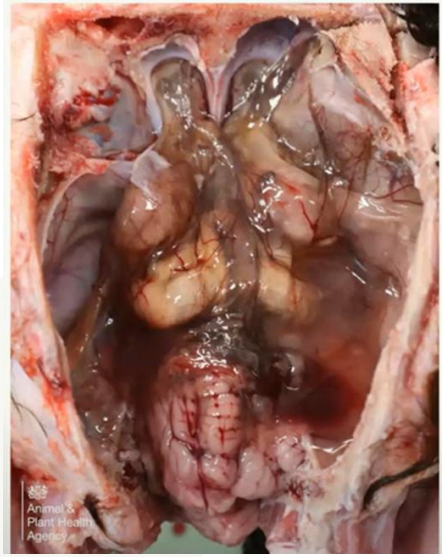
Signs in calves

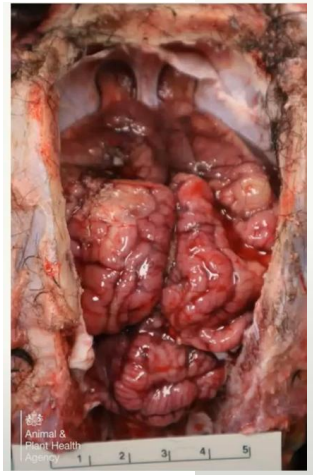
Calves can become infected with bluetongue (BTV-8) before birth if the mother is infected while pregnant. Signs of infection include:

- Abortions
- Calves born small, weak, deformed or blind, weak suck reflex, difficulty standing, star gazing, head pressing, seizures. These calves usually have cavities in brain due to destruction of tissue
- Death of calves within a few days of birth



Dummy calves





‘Vacant’ or ‘dummy calf’ presenting signs

Blindness

Seizures

Head pressing

Circling

Lack of suck reflex

Difficulty standing

‘Stargazing’

Weakness

Passive demeanour

Wide based gait

Decisions about vaccination….

BattleBluetongue-vaccine-decision-maker-tool-February-2025-.pdf

Bluetongue: how to spot and report the disease - gov.scot

Home - Ruminant Health & Welfare

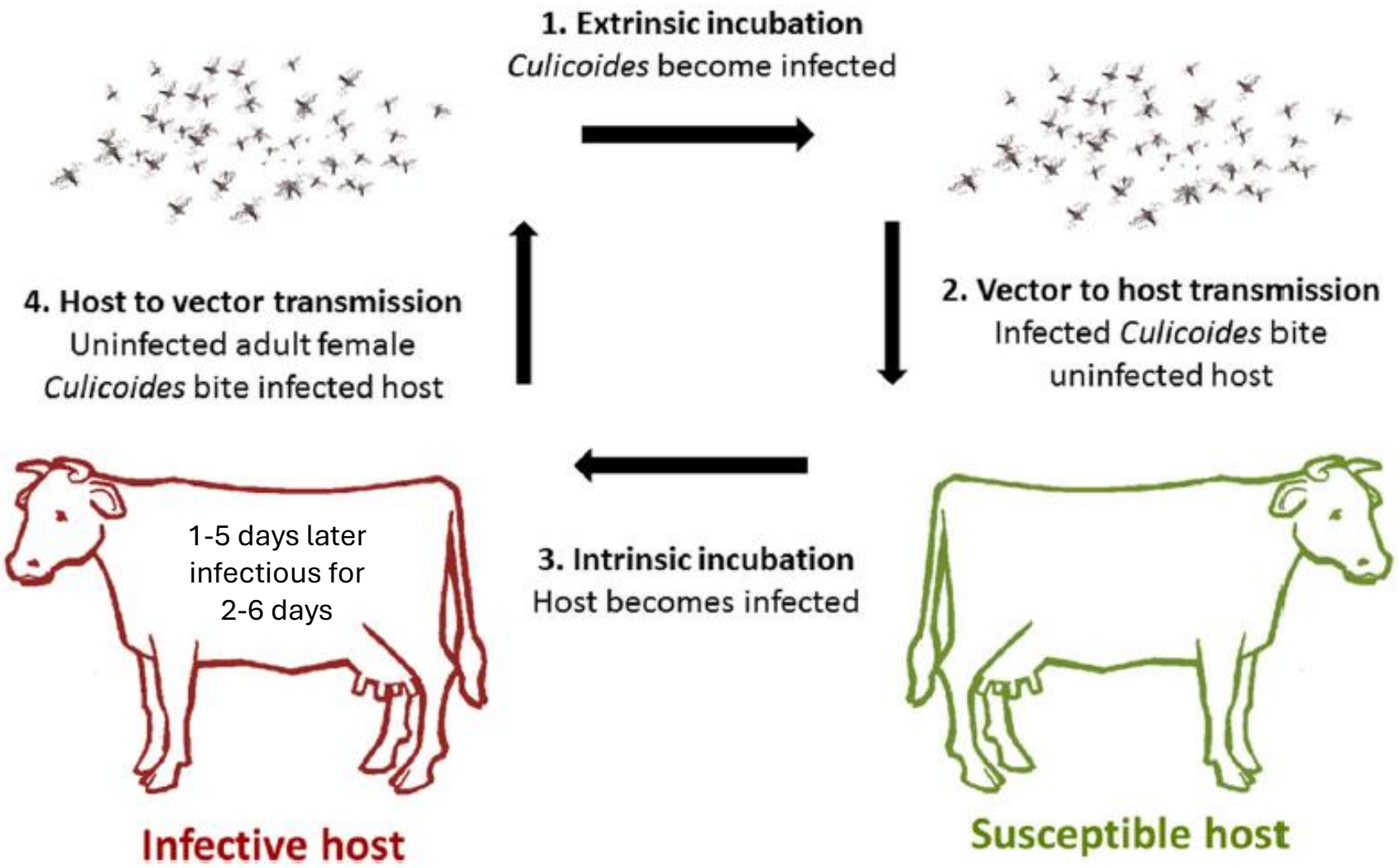
On gov.scot: (For Current Movement Requirements – choose dropdown box “Choose Section” and pick “Bluetongue Movement Restrictions For Animals”)

Schmallenberg Virus (SBV)

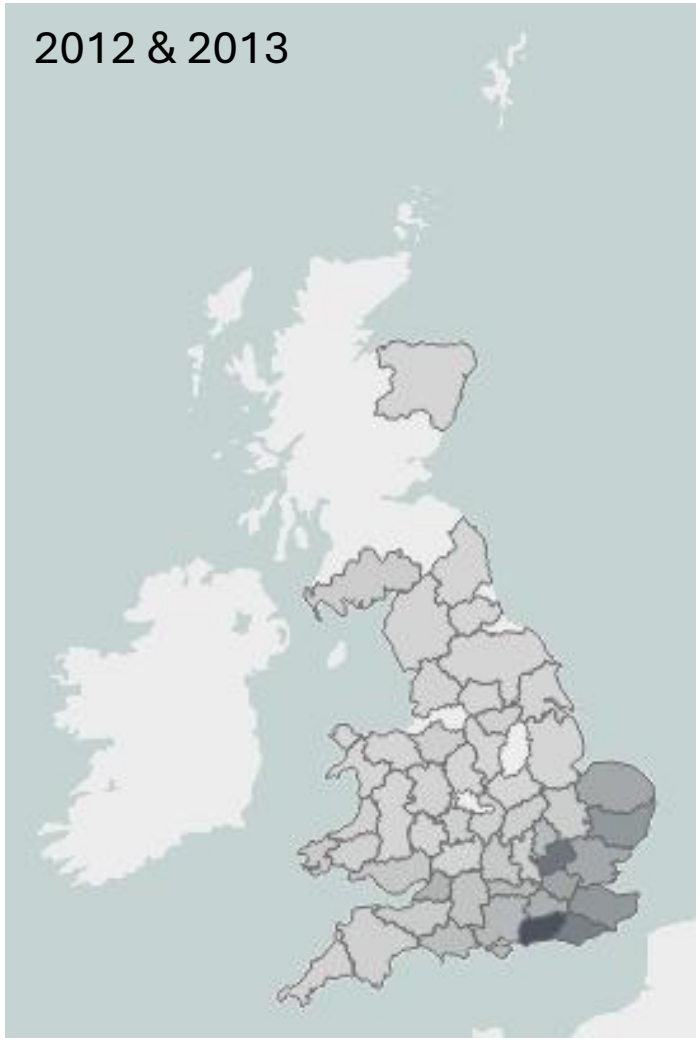
- Example of a “new” virus - first recognised in Germany 2011
- Outbreaks seen in UK in 2012-13, 2016-17 and 2024-25

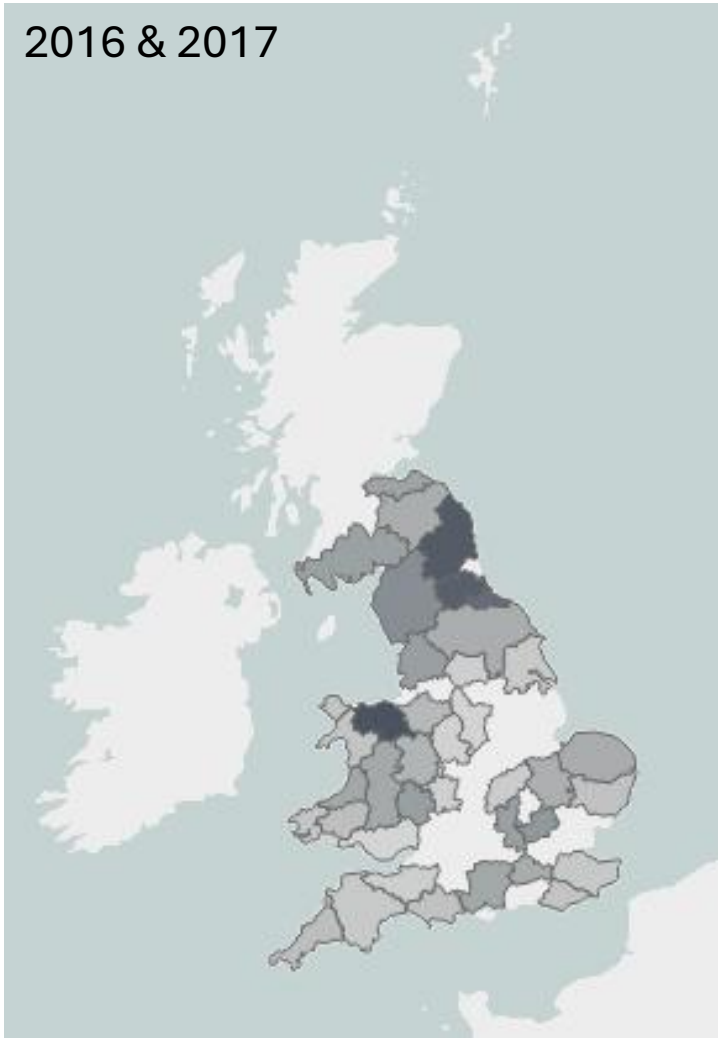
- Viral disease transmitted by midges (*Culicoides obsoletus* group)
  - NO animal-to-animal spread
- Midges most abundant April – October
  - Peaks in May & September
  - Still, warm, humid weather peak activity
- Long lasting immunity following infection
  - 4 years in sheep, 6 years in cattle?

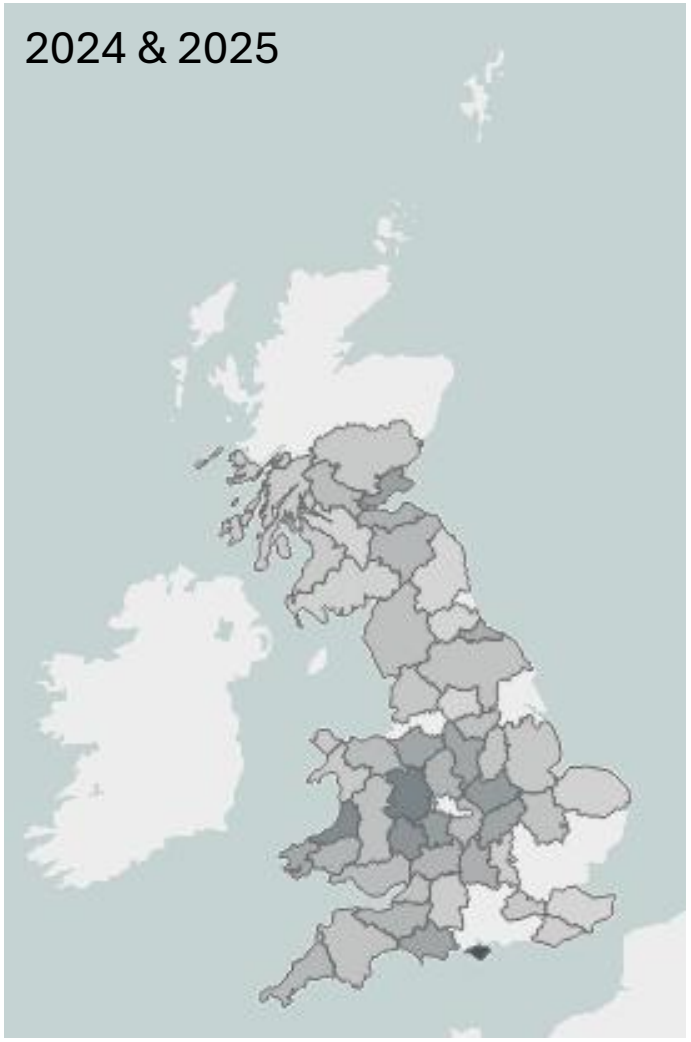
Schmallenberg Virus (SBV)



SBV Outbreaks



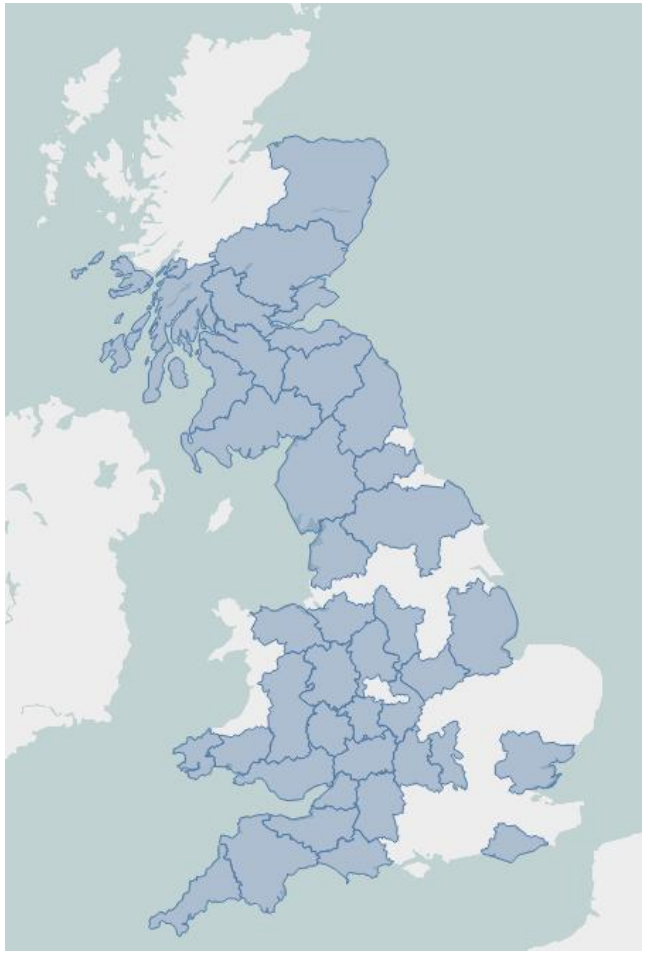




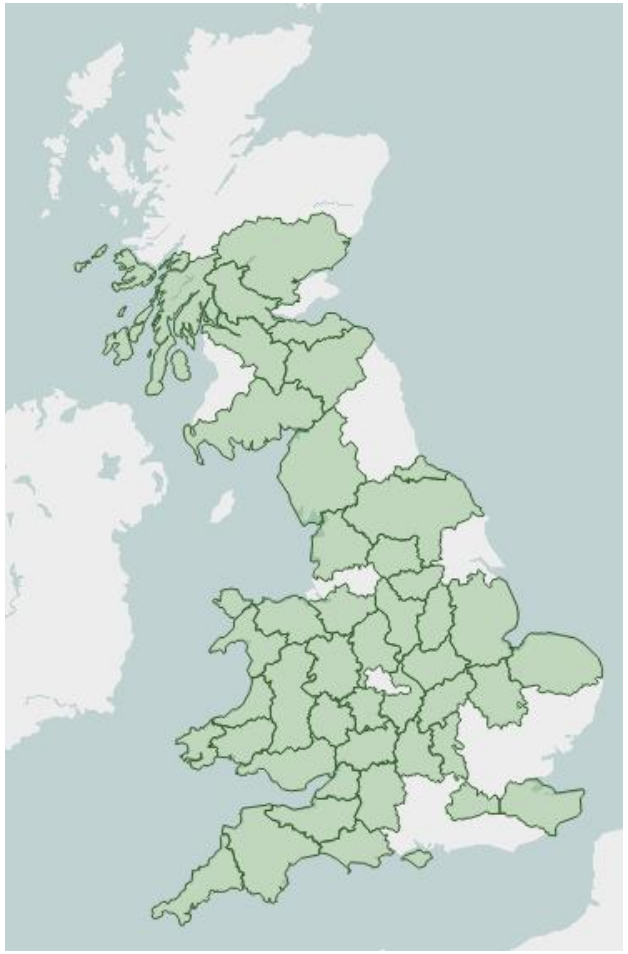
SBV 2025 Scotland

- Furthest West is Islay/Skye
- Furthest North is Aberdeenshire (Skye)
- None in mainland Highlands as a county – yet

Cattle 24-25

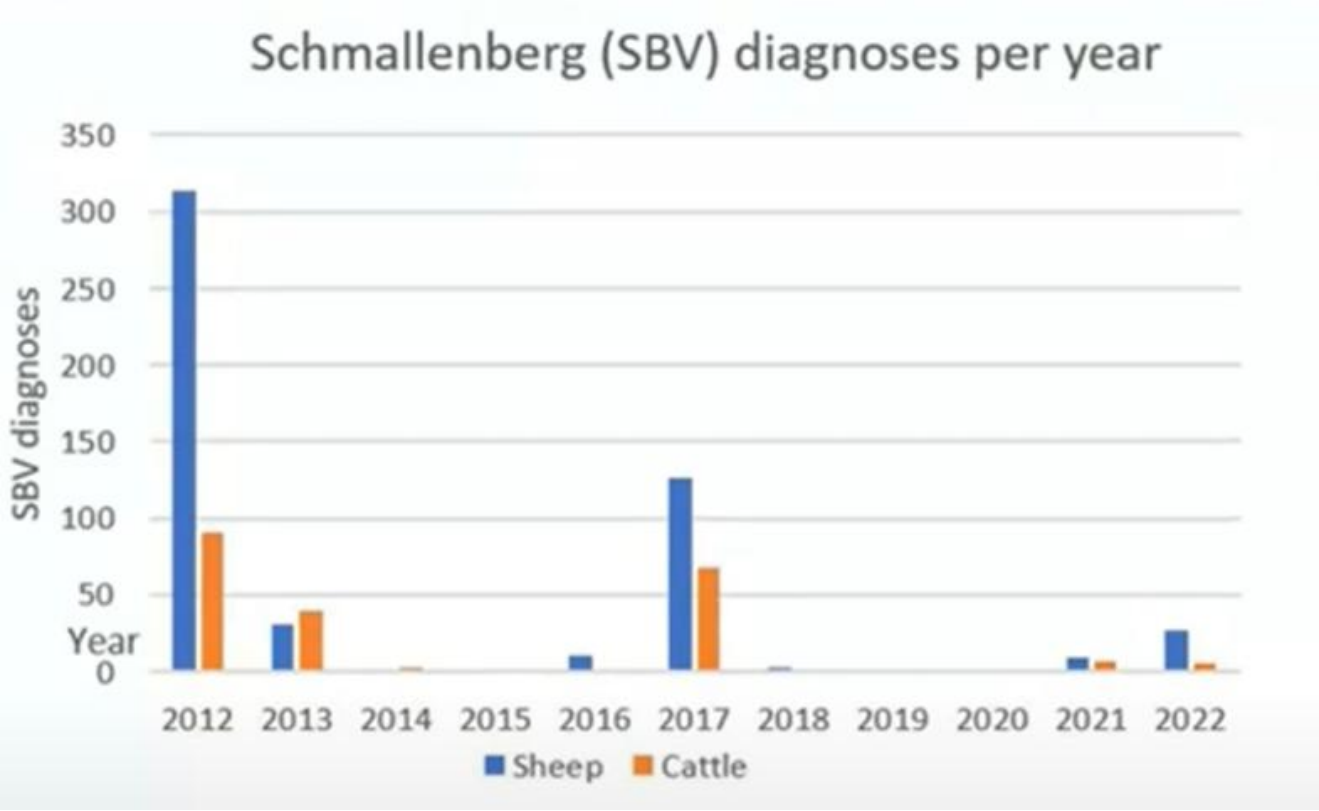


Sheep 24-25



Ref: APHA Cattle and Sheep disease dashboards

Cyclical infection - Immunity



- Duration of immunity
- Edge of endemic zone – hence UK “outbreaks”
- Weather and midge dependant
- Summer or autumn matings increased risk = early lambing flocks

Clinical signs – non pregnant

- Fever
- Milk drop
- Scour
- Returns to service

- Limited reported signs
- Fever

Infection - breeding sheep/cattle

Tupping/bulling	Pregnancy

Fever (rare) could affect male fertility
Increased returns to tup/bull

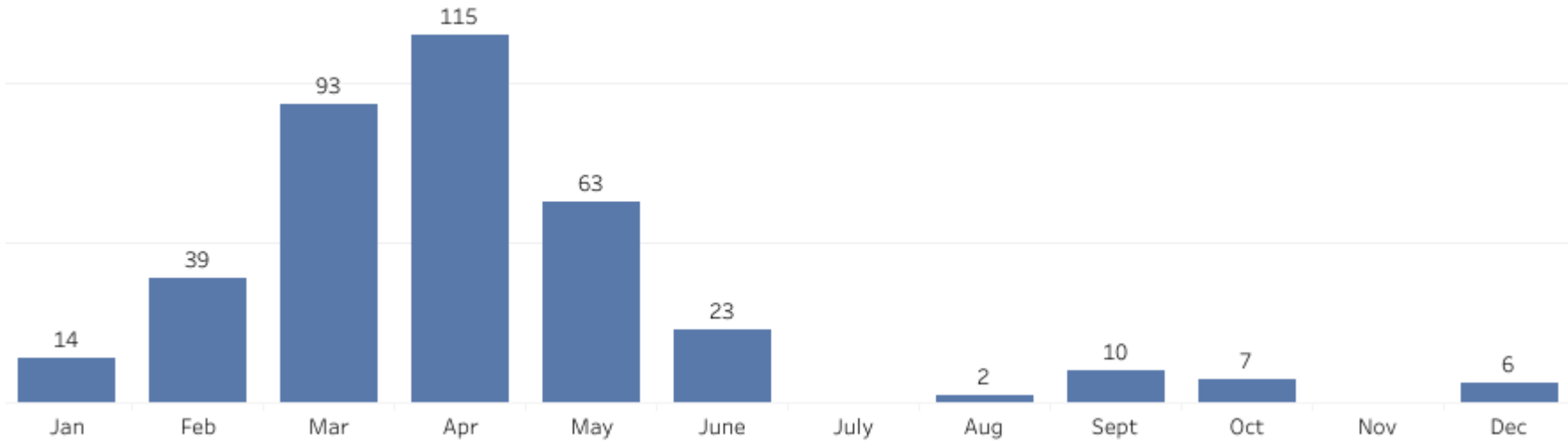
⟺ Days 0 – 28 embryo death – Increased returns/barren rate

⟺ Days **28 -60** Foetal deformities – sheep
Days **60-180** cattle foetal deformities

Timing of Risk - Cattle

- Risk period for foetal infection is **60 – 180** days.

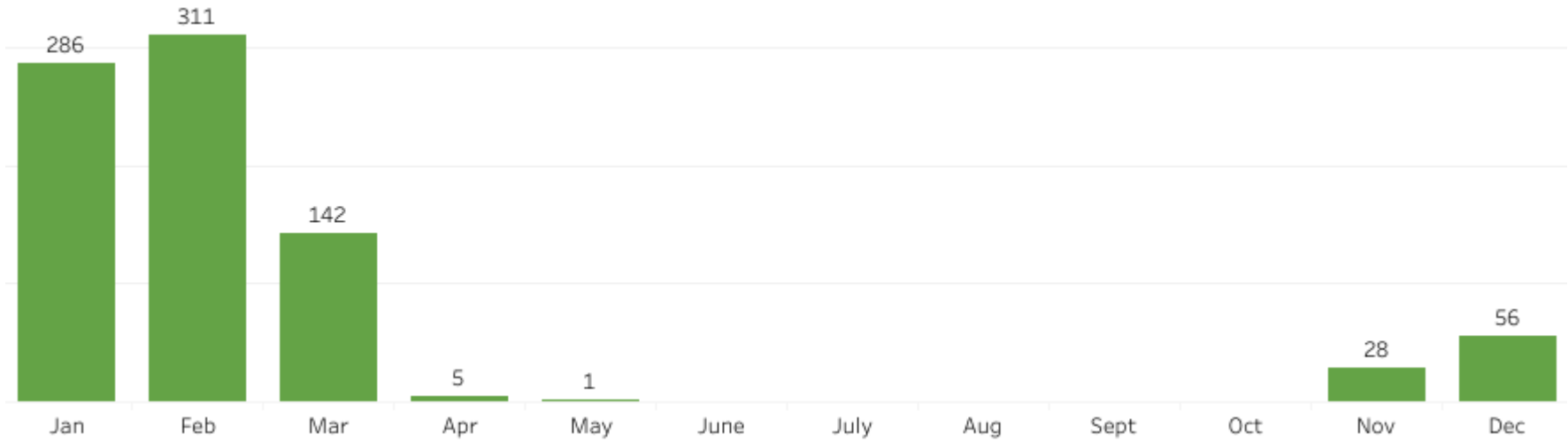
Bulling Period (9w)	Risk period	Calving
Start May – Start July	Start July – End Dec	Early Feb – Mid April
Start Dec – Start Feb	Start Feb - End July	Early Sept – Mid Nov



Timing of Risk - Sheep

- Risk period for foetal infection is **25-60** days.

Tupping Period (4w)	Risk period	Lambing
August	Start Sept - End Oct	Late Dec - Early Jan
November	Start Dec - End Jan	April



Questions/Discussion