

A photograph of a sheep in a pen, with a lamb lying on the ground in the foreground. The sheep is standing and looking towards the camera. The pen is made of metal bars and has a straw-covered floor. The text "MANAGEMENT OF ABORTION IN THE SHEEP FLOCK" is overlaid in white, bold, sans-serif font.

# MANAGEMENT OF ABORTION IN THE SHEEP FLOCK

The logo for Dalehead Veterinary Group Ltd, featuring the company name in a white serif font inside a white rounded rectangular border.

**Dalehead**  
Veterinary Group Ltd



**WHAT SHOULD YOU DO?**



# WHAT SHOULD YOU DO?

- Isolate from **ALL** other sheep and clearly mark
- Dispose of aborted lambs/placentas/bedding
- Risk of spread to humans



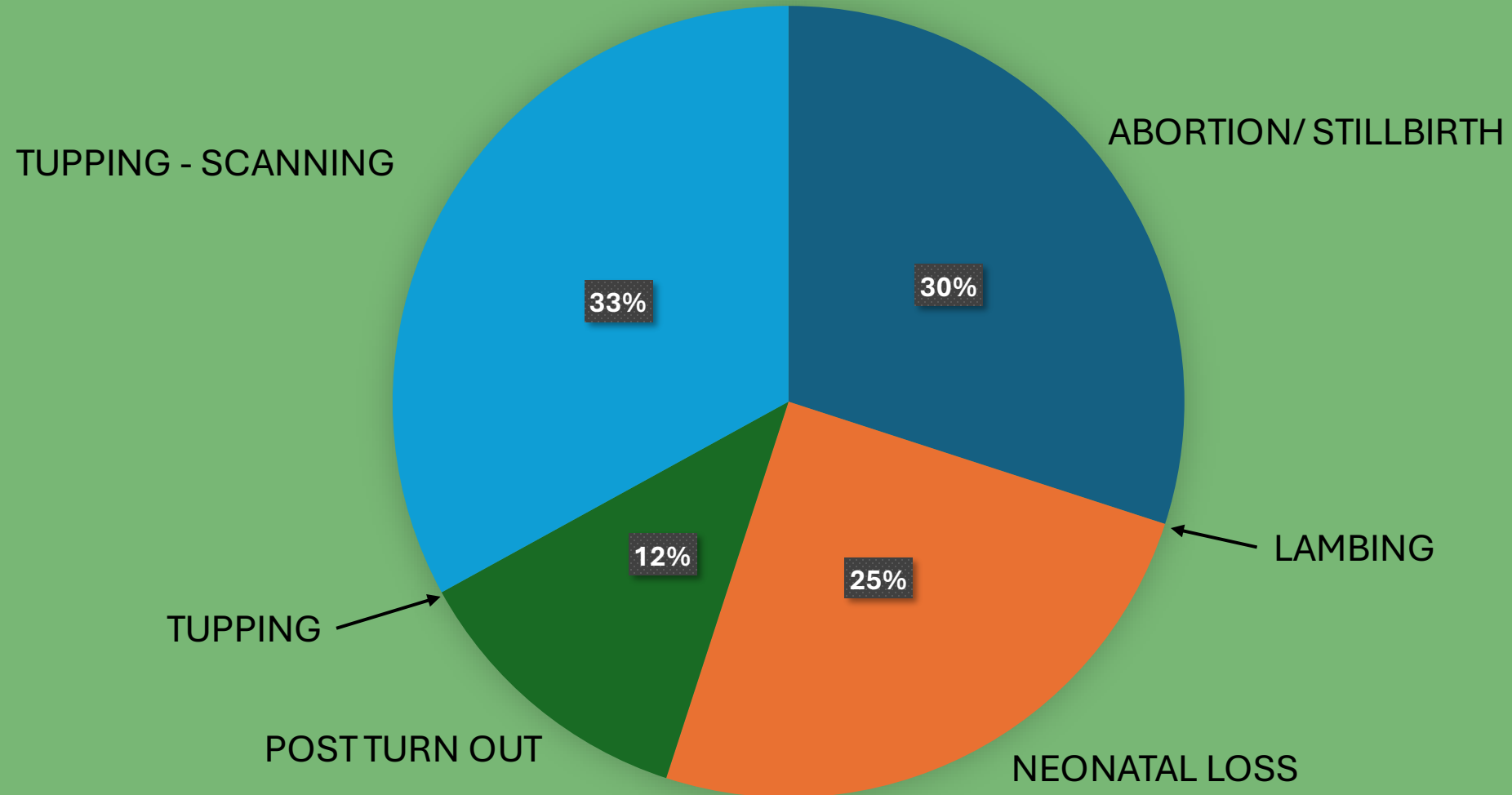
**NOW WHAT SHOULD YOU DO?**

# INVESTIGATE CAUSE OF ABORTION

- If over 2% abortion – likely infectious cause
- Need aborted lambs AND afterbirths
- Double bag – **don't bring into the surgery**
- Blood sample aborted (and barren) ewes



# LAMB LOSSES – NATIONAL AVERAGES

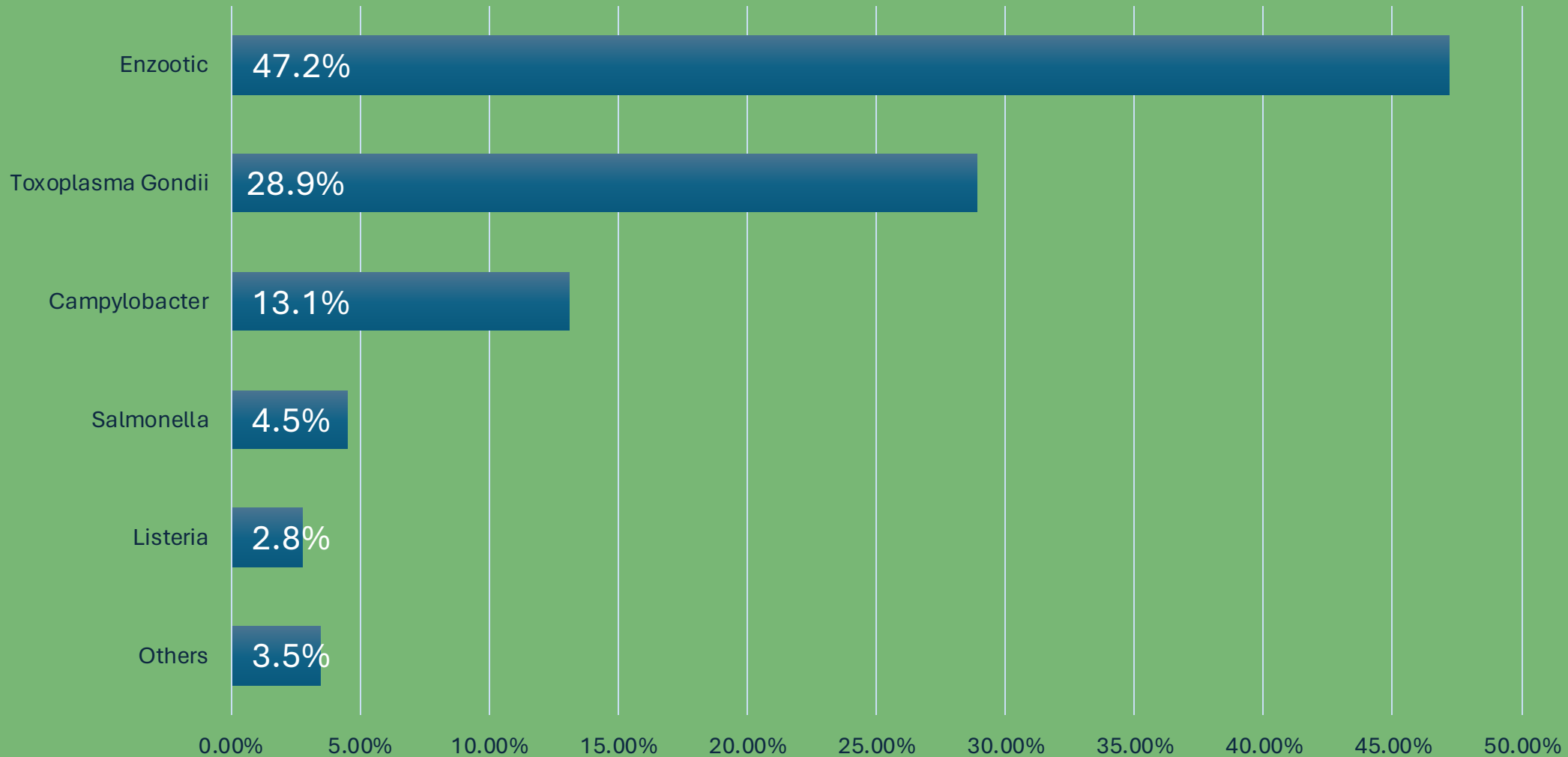


# CAUSES OF ABORTIONS

- **Nutrition**
  - Thin ewes
- **Stress**
- **Infectious causes**
  - EAE
  - Toxo
  - Campylobacter



# INFECTIOUS CAUSES OF ABORTIONS





# DALEHEAD FLOCKCHECK RESULTS



40% of ewes tested showed evidence of Enzootic Abortion



36% of ewes tested showed evidence of Toxoplasma



75% of farms showed evidence of either Enzootic and/or Toxoplasma infection

# ENZOOTIC ABORTION (EAE)

- Highly contagious from sheep to sheep
- 99% spread around lambing time
- Abortion in last 2-3 weeks pregnancy
- Ewes aborting this year were infected last year
- Contagious to humans - zoonosis



# SPREAD OF ENZOOTIC ABORTION

- Caused by bacteria *Chlamydia Psittaci*
- Aborted lambs, afterbirths and vaginal discharges infectious to other ewes (**sheep to sheep spread**)
- Infection can survive on ground for several days – longer if cold or freezing conditions.
- Aborted ewe immune in future years but may be carrier and shed organism around lambing
- **99% of spread of infection is around the time of abortion/lambing**

# ENZOOTIC ABORTION - CLINICAL SIGNS

- Abortion in last 3 weeks of pregnancy or premature live lambs
- May be discharge for 24 hours before abortion, ewes not ill
- Aborted lambs appear fresh
- Cleansing thickened “cheesy plaques”



# SPREAD OF ENZOOTIC ABORTION

- Infection picked up by mouth
- Bacteria lie dormant in wall of uterus until next pregnancy
- Infected ewe or lamb will not become immune until after it aborts
- Bacteria released into uterine fluids by day 90 of pregnancy and damage placenta
- Causes late abortion but not barren ewes or mummification



# SPREAD OF ENZOOTIC ABORTION

Ewes that abort with EAE will not abort the following year with EAE but will contaminate the lambing pens in subsequent years.



# PREVENTION AND CONTROL

- Hygiene
- Antibiotic treatment of pregnant ewes
- Vaccination
- Sourcing of replacements





# HYGIENE

- 99% of spread of Enzootic abortion takes place around time of lambing
- Dispose of infectious material – lambs/afterbirths/bedding
- Isolate aborted ewes from all other sheep until discharges stop (3 weeks)
- Risk of humans spreading infection
- ‘Mothered-on’ lambs at risk



# ANTIBIOTIC TREATMENT

- Good success with long acting antibiotic injections
- Day 90 -105 if infection previously confirmed
- In face of an outbreak
- Does not provide an immunity



# VACCINATION

- Important part of any control programme
- Gives solid immunity to previously uninfected animals
- Greatly reduces the number of abortions in infected ewes which haven't yet aborted
- Reduces shedding in animals which have previously aborted
- Enzovax/ Cevac Chlamydophila, single shot 1 month pre-tupping

# SOURCING OF REPLACEMENTS

- Breed own replacements
- Enzootic Abortion free flocks
- Buy from known (vaccinated) flocks
- Vaccinate all replacements as part of control programme
- Tups do not spread Enzootic Abortion



# SUMMARY – ENZOOTIC ABORTION

- Most common cause of infectious abortion in UK sheep flocks
- Sheep to sheep spread
- Carry-over from one year to next
- Control by vaccination (and antibiotic)
- Human health risk to pregnant women



# TOXOPLASMOSIS

A wide-angle landscape photograph of a green field with sheep grazing under a blue sky with scattered white clouds. The word 'TOXOPLASMOSIS' is overlaid in large white text in the center. The scene is a rural landscape with rolling hills in the background and a fence line visible on the right. The lighting suggests late afternoon or early morning, with long shadows cast across the grass.

# WHAT IS TOXO?

- 2<sup>nd</sup> most common cause of abortion
- Caused by a protozoal infection, *Toxoplasma gondii*
- Carried and spread by cats who are infected by eating rodents
- Transmitted to sheep in **cat faeces**
- Oocysts (eggs) can live in environment for a long time



# WHAT IS TOXO?

- **Zoonotic** - cause significant disease in pregnant women and immuno-compromised people.
- No sheep to sheep spread
- Infection results in a strong natural immunity
- Ewes should not abort again





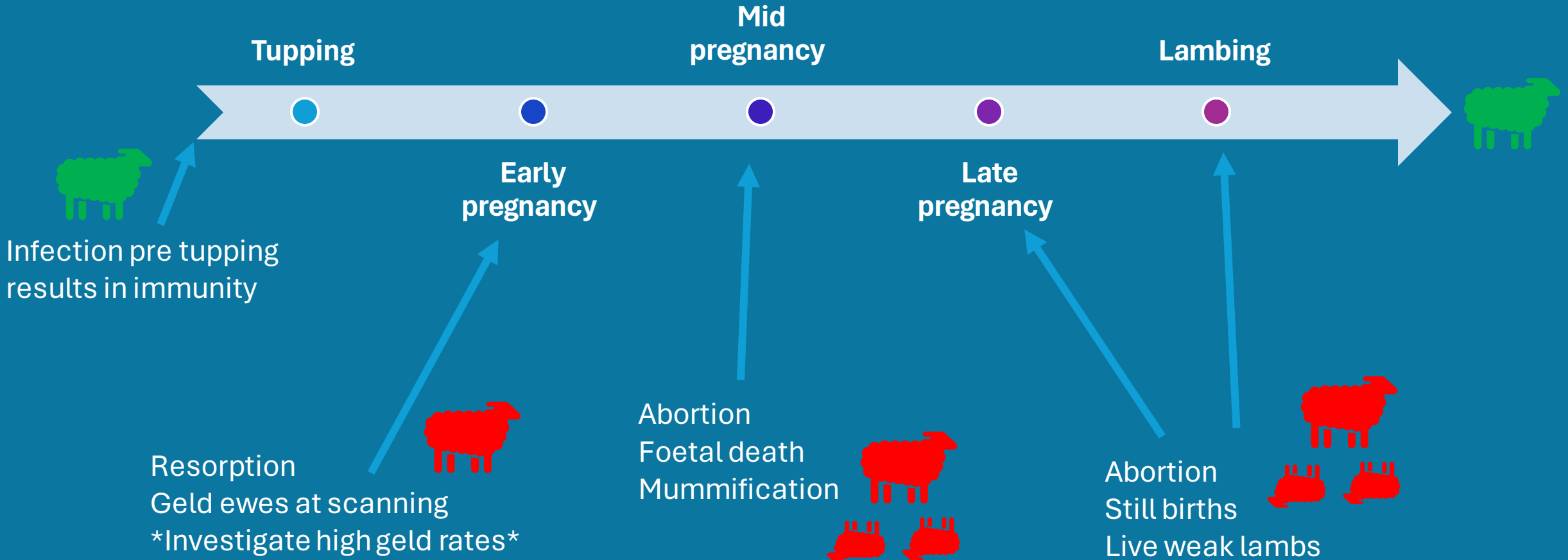
# CLINICAL SIGNS

- Abortion
- Increased number barren ewes
- Birth of weak poor doing lambs
- Still births
- Mummified foetuses

**The cost is greater than just the abortion rate would suggest**

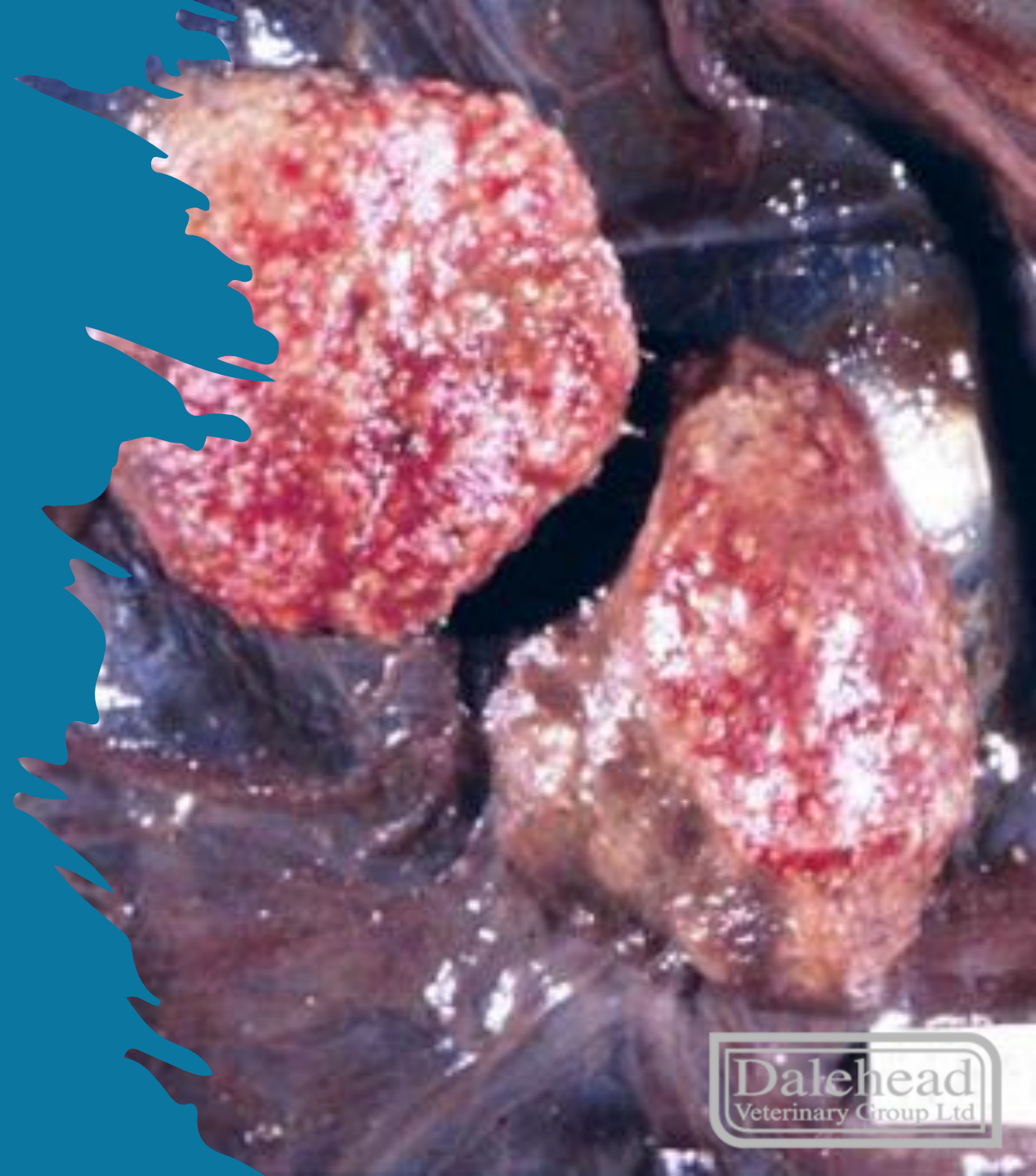


# TOXO



# CLINICAL SIGNS

- Aborted lambs have a thick, brown leathery appearance
- White spots on cotyledon (button) on placenta
- Where the cells have died after the multiplication of the protozoa



# DIAGNOSIS

- Clinical signs
- **Post mortem of lambs and placenta best**
- Or blood sample ewe



# TREATMENT

- There is no effective treatment
- We must rely on prevention



# MANAGEMENT

- Buy vaccinated replacements
- Retain ewes that have been infected with Toxo
- Keep cats away from sheep feed
- Rodent control
- Vaccinate



# THE VACCINE

- Prevention relies on the use of a live vaccine
- Single dose at least 3 weeks prior to mating
- It has a short shelf life so organisation is required
- Do all unexposed sheep in first year and replacements thereafter
- Cost = £6 can be done at same time as EAE vaccine



# EAE vs TOXO

	<b>EAE</b>	<b>Toxo</b>
<b>Source of infection</b>	Aborted placenta/lambs <b>Ewe to ewe transmission</b> Carrier sheep	Hay, straw, concentrates, pastures – contaminated with cat faeces
<b>Appearance</b>	Fresh lambs Thickened placenta Ewes ok Abortions the following year	Fresh lambs Mummified lambs Leathery or white spots on placenta Ewes ok
<b>Treatment</b>	<b>Antibiotics</b> in the face of an outbreak	<b>No treatment</b> Infection causes immunity
<b>Control</b>	Cull aborted ewes Vaccination Buy EAE-free or vaccinated replacements	Keep aborted ewes Vaccination Neuter farm cats

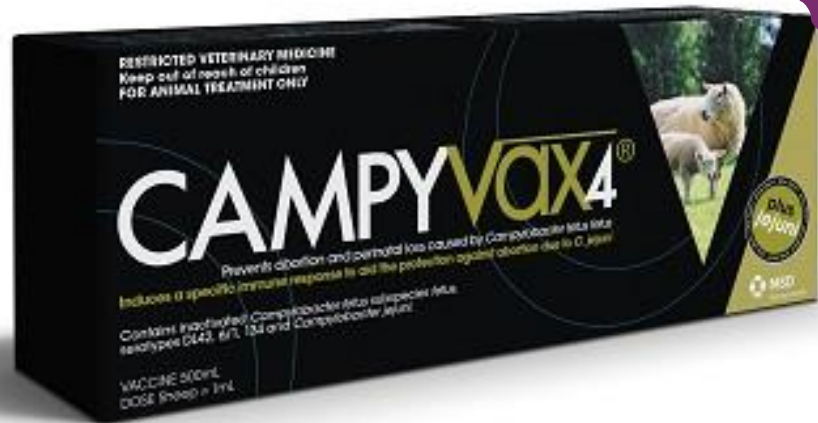


# CAMPYLOBACTER ABORTION

- Initial source of infection often wildlife (Seagulls/crows/jackdaws)
- Incubation period 1-2 weeks
- Aborting sheep, lambs, placentas are all very contagious.



# CONTROL OF CAMPYLOBACTER ABORTION



- Hygiene
- Antibiotics are limited value
- Mixing aborted ewes with non pregnant sheep?
- Vaccine

# BORDER DISEASE (HAIRY SHAKERS)

- Viral infection closely related to BVD in cattle
- Infection during pregnancy can lead to

- Reabsorption
- Mummification
- Abortion
- Weakly live lambs
- Hairy Shakers



# SPREAD OF BORDER DISEASE

- Persistently infected animals shed virus every day of their lives
- Spread by aerosol route, bodily fluids



# OTHER INFECTIOUS CAUSES OF ABORTION

- Salmonella
- Listeriosis
- Bluetongue



A group of sheep are gathered in a grassy field under a blue sky with light clouds. In the foreground, a large sheep with thick brown wool and a black face is wearing pink-rimmed glasses. To its right, another large sheep with similar wool and a black face is wearing blue-rimmed glasses. Several smaller, spotted lambs are scattered around them. In the background, a metal trailer is attached to a red tractor. A white speech bubble with a black outline is positioned in the upper right, containing the text "ANY QUESTIONS?".

ANY  
QUESTIONS?