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Wales Veterinary  
Science Centre

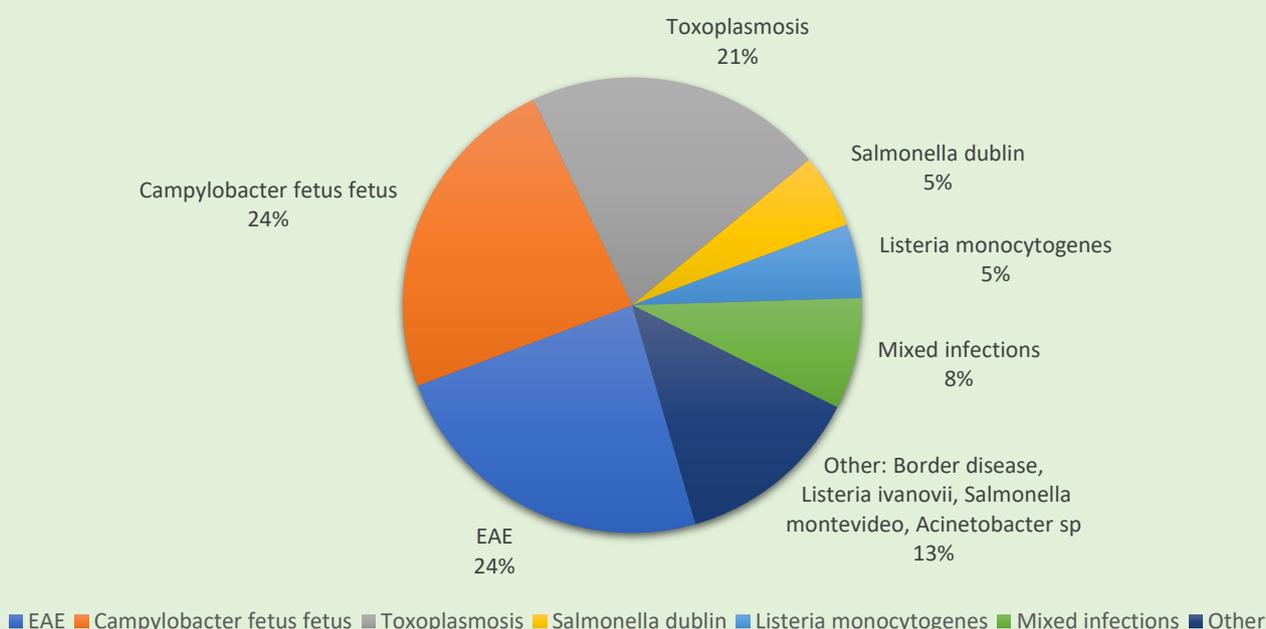
Issue:38 (July 2022)

# NEWSLETTER CYLCHLYTHYR

## Ovine Abortion Special

Welcome to this special edition with reports and a summary of our ovine abortion data from this year's lambing time (November 2021 to May 2022). Now is the time to start planning vaccination and biosecurity measures for next year.

### Ovine Abortion diagnoses at WVSC November 2021 to May 2022



**Enzootic abortion (EAE)** caused by *Chlamydia abortus* is usually the most common abortifacient diagnosed at WVSC followed by *Campylobacter fetus fetus* (Figure 1) and toxoplasmosis, but there were fewer diagnoses of EAE this year. Such was the case, that unusually there was an equal number of diagnoses of EAE, *Campylobacter fetus fetus* and toxoplasmosis (including mixed infections). EAE and toxoplasmosis; *Salmonella* Agama and toxoplasmosis; and *Salmonella* Montevideo and *Campylobacter fetus fetus* were diagnosed in mixed infections.

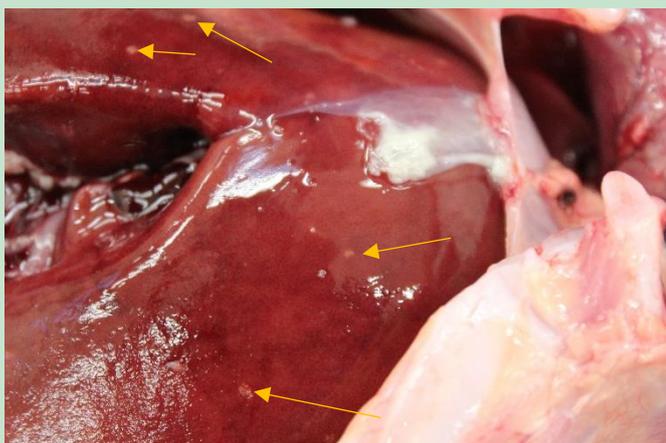
In 36.7% of ovine abortions submitted **no diagnosis** was reached and this is similar to previous years. Monitoring of the percentage of diagnosis not reached (DNR) is important as an increase could indicate the emergence of a new pathogen and warrant more in-depth investigation into submissions without a diagnosis. However, a diagnosis may not be reached due to a

variety of causes. These include **non-infectious causes** eg pregnancy toxaemia, or **intercurrent diseases** such as **fasciolosis** and the 'iceberg' diseases, ovine pulmonary adenocarcinoma (OPA) and Johne's disease. These can impact on pregnancy and cause late abortion, for which no direct abortion diagnosis is recorded.

If ewe mortality is a feature of an abortion outbreak, it is advisable to submit a ewe carcass as well as abortion material to investigate potential underlying causes such as fasciolosis or salmonellosis. Please phone to discuss if you are unsure.

Another important factor that has an impact on abortion diagnosis is **quality of samples submitted**. Severely autolysed or mummified foetuses are unlikely to provide a diagnosis. The submission of placenta (including cotyledons) is essential for the diagnosis of EAE. Also, contamination of foetal submissions by faeces and bedding will reduce the chances of a diagnosis. It would

be better to wait and submit fresh samples with placenta in all instances to optimise the chances of diagnosis.



**Figure 1: Multiple necrotic liver lesions associated with *C.fetus fetus***

**Salmonellosis** due to *S. Dublin*, *S. Montevideo* and *S. Agama* were diagnosed this year. In one outbreak involving *S. Dublin*, 21 ewes had aborted two weeks prior to lambing. *S. Dublin* is a cattle adapted strain which may cause illness in affected ewes as well as abortion. No other illness affecting the ewes was reported in this case, however.

In an outbreak involving *S. Montevideo* which usually causes abortion and no other illness, 15 ewes out of a flock of 1200 had aborted over a seven-day period. In another outbreak six or seven ewes had aborted. *C. fetus* was also identified in this outbreak and so it was difficult to assess the relative impact of each organism as both can cause significant abortion outbreaks.

*S. Agama* and toxoplasmosis were diagnosed in aborted lambs from a farm where approximately 20 ewes had aborted in a 1000 ewe lowland flock. *S. Agama* is a serovar often associated with badgers.

**Listerial abortion** due *Listeria monocytogenes* and *Listeria ivanovii* were both diagnosed this season. *L. monocytogenes* is more commonly identified as a cause of abortion than *L. ivanovii* in sheep. In the incident involving *L. ivanovii* an 18 month old Jacob first time lamber, which was due to lamb in seven weeks time was affected.

*Listeria* sp are environmental organisms. Abortion due to *Listeria* is a sporadic problem often resulting from feeding silage, especially bagged silage, contaminated by infected soil. When there is no alternative source of forage, then restrict the silage per head to a minimum and avoid feeding obviously spoiled material. Non-pregnant cattle may be less likely to suffer ill-effects than sheep, goats or pregnant cows. *Listeria* can also

cause nervous disease, septicaemia and gastro-enteritis in ewes and goats.

**Border disease** was confirmed in a flock in which 200 two-year-old first time lambers were affected with 25 abortions in the group and “hairy shaker” lambs born alive. Border disease virus was detected by PCR in the spleen of an aborted lamb as well as a two-day old “hairy shaker” lamb.

**Goitre** is uncommonly diagnosed in sheep but was suspected in a single lamb that was submitted for postmortem examination from a lowland flock comprising 1000 ewes. Lambs were being born dead and with twins there were occasions where one lamb was born alive and the other dead. Postmortem examination revealed a swollen head and tongue suggesting that the lamb died following dystocia or bradytocia due to an oversized lamb. However, the thyroid gland was also quite prominent and weighed 5.6g (0.77g/kg bodyweight). A neonatal lamb thyroid gland weighing more than 0.9g/kg bwt is suspicious of goitre (0.4-0.9 is considered marginal).

Histopathology revealed suspect colloidal goitre. Colloidal goitre may be considered an involutionary phase of thyroid follicular hyperplasia, occurring when the insult to thyroid function – be that iodine deficiency or excess or exposure to goitrogenic plants or chemicals – has been resolved. This was considered potentially significant in the stillbirth of the lamb, as congenital hypothyroidism can lead to prolonged gestation, foetal oversize and dysmaturity of the foetal cardiovascular and respiratory systems.

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Please check the eligibility for **free carcass collection** via this website:

[ahvla.defra.gov.uk/postcode/pme.asp](http://ahvla.defra.gov.uk/postcode/pme.asp)

The suitability of submissions for a postmortem exam. must always be discussed with the WVSC duty vet.