Canolfan Milfeddygaeth Cymru
Wales Veterinary Science Centre
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NEWSLETTER CYLCHLYTHYR

Beneath the Fleece…

Investigating thin ewes including Iceberg diseases

WVSC has been investigating the causes of thin ewes on Welsh farms. We have now performed postmortem examinations (PME) on 15 cull ewes from five different farms with some interesting findings. Submissions continue for the project and we look forward to presenting them at a Sheep Vet meeting in the near future.

Dental disease was considered an important factor in three of the 15 ewes.

Johne's Disease was diagnosed in two of three thin ewes submitted from a closed hill flock. Two ewes had oedematous and thickened distal small intestine and ileo-caecal junction, one of which had a striking yellow colour on the luminal surface (see Fig. 1). These two ewes were one and three years of age and both subsequently tested positive for Johne's disease on the antibody ELISA (blood samples were taken prior to euthanasia). Faecal worm egg counts revealed a high worm burden in all three ewes submitted, demonstrating the immunosuppressive effect of Johne's disease. Testing for other icebergs and tick-borne fever was negative, however subnormal liver selenium levels were diagnosed in all three ewes.

Figure 1 – distal small intestine with clinical Johnes's disease

Tick-borne fever and related immunosuppression were suspected to be causing poor body condition in younger cohorts of ewes in a large upland flock. Three ewes were submitted alive to the WVSC for blood collection and euthanasia for PME. Two of these ewes had live ticks at the time of submission.

All three ewes had pulmonary pathology, ranging from acute to chronic. Two of the three ewes had high worm burdens. All three were negative for Johne's disease, Caseous lymphadenitis (CLA) and Borders disease virus (BDV) on bloods. PCR testing of lung tissue revealed *Mycoplasma ovipneumoniae* in two ewes. Infections in a flock generally lead to variable morbidity and low mortality but this is heavily influenced by the host immune response as well as other co-morbidities.

One ewe was tested and positive for Tick-borne fever. The first and most prominent clinical sign of this disease in sheep is an acute fever. Other symptoms are often milder and include listlessness and weight loss as well as non-specific respiratory signs. Ewes infected during gestation generally suffer abortion due to the pyrexia. The mortality rate is generally low with tick-borne fever alone, but the resulting immunosuppression from the significant impairment of humoral and cellular immunity means susceptibility to other diseases is high and this can lead to a more dramatic clinical picture. Tick-borne fever is commonly linked with louping ill, listeriosis, tick pyaemia and respiratory infections.

In summary the findings in this case were intestinal parasitism, Tick-borne disease and infection with *Mycoplasma spp.* These conditions alone are unlikely to cause significant disease in a flock of otherwise healthy ewes, but in combination could certainly be responsible for poor performance.

Atypical non-progressive pneumonia was diagnosed in a flock of ewes with up to 4% of the group assessed to be in suboptimal body condition. All three ewes submitted had significant pulmonary pathology; widespread pulmonary fibrosis, large numbers of live lungworms in the airways, consolidation and abscessation (see Fig. 2). Iceberg disease testing was negative (OPA, BDV, CLA, Johne's, Maedi Visna). One of the three ewes had a high worm burden.

Staphylococcus aureus and *Mycoplasma arginini* were both detected on microbiology. A high lungworm burden is unusual in adult ewes; immunosuppression is likely underlying in this case. It was suggested to carry out serology for iceberg diseases on a larger proportion of the flock.

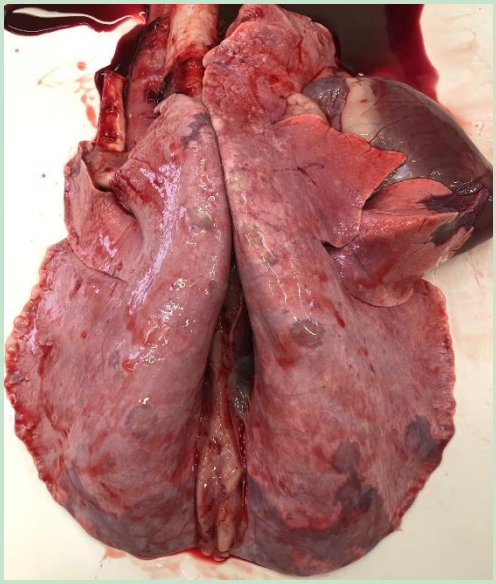

Figure 2 – surface of lungs with widespread fibrosis

Borders disease (BD) was implicated in a large, upland flock experiencing issues with suboptimal body condition scores, reduced fertility, low rearing percentage and increased ewe mortality. Three thin ewes were submitted and gross findings on PME included dental disease and pulmonary abscessation. High worm burdens were diagnosed in two. Johne's and Maedi Visna serology testing was negative. Two of three ewes were positive for BD antibodies and one of three was low positive for CLA. *Mannheimia haemolytica* and *Mycoplasma ovipneumonia* were both isolated from the lungs of one ewe.

Looking further… We have joined forces with the National Sheep Association (NSA) Wales to try to encourage vets to work with sheep farmers to investigate unexplained thin ewes in their flock, specifically focusing on Iceberg diseases. The **Enferplex multiplex ELISA** antibody test is now available at WVSC, and we are accepting samples for testing. Currently the testing panel can screen blood samples for **Caseous lymphadenitis, Johne's disease and Maedi Visna/CAE**. We ideally advise between 20-30 blood samples depending on the size of the flock. Currently NSA is offering a 10% discount to all its members in this initial period and don't forget that Farming Connect also offer funding and support packages to farmers wanting to investigate disease or issues on farm. Please contact us if you would like more information.

Upcoming CPD with WVSC:

Our next online **CPD Clinical Club** is on Ovine Lameness - 12/12/24 at 8pm with Phillipa Page BVSc BSc MRCVS

Basic Sheep Modular Course – Lambing time – 8/1/25 @WVSC, Aberystwyth

Basic Cattle Ultrasound Scanning 19/02/2025 @ Gelli Aur College

Advanced Cattle Ultrasound Scanning 20/02/2025 @ Gelli Aur College

For more information on any of our courses, please go to our website. If you would like to be added to our CPD mailing list, please email enquiries@wvsc.wales

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

http://apha.defra.gov.uk/postcode/pme.asp

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