

OVERVIEW

- **Ragwort toxicity in cattle**
- **Renal crest necrosis following NSAID use in lambs**
- **Rhododendron toxicity in a llama**

DISEASE ALERTS

The following conditions were reported by SRUC VS disease surveillance centres in September 2025. Given similar climatic and production conditions, they could also be important this year.

Infectious keratoconjunctivitis (IKC) in sheep

Outbreaks of IKC in sheep can be difficult to control. They are often reported following mixing of groups or introduction of new animals. *Mycoplasma conjunctivae* is the most commonly diagnosed cause, and a specific PCR test is available. Clinical signs can recur following treatment as tetracyclines will not eliminate *M conjunctivae* from the eye.

Babesiosis

Most diagnoses of babesiosis are made between May and September with peaks in June and August. It is most commonly recorded in cattle over two years of age with cattle aged less than nine to twelve-months having innate immunity. Detection of *Babesia divergens* inclusions within erythrocytes in a blood smear is diagnostic but more challenging after death. PCR testing can be carried out on an EDTA blood sample in the live animal or on spleen postmortem.

GENERAL INTRODUCTION

June was dull and wet with 90 per cent of sunshine hours and 118.7 per cent of rainfall compared to the thirty-year average. The mean temperature of 13°C was 1.4°C above the 1991 to 2020 average.

CATTLE

Toxic conditions

The carcass of a three-year-old Aberdeen Angus cross cow was submitted to investigate ill health and deaths in a group of 21 cows at grass. Two cows had become lethargic and diarrhoeic before dying 48-hours later while the submitted cow had a three-day history of tenesmus, lethargy and weakness leading to recumbency. It was suspected to be blind and knuckled on all limbs when it attempted to stand. External examination noted a rectal prolapse plus corneal oedema and hyphema. The carcass was thin with serous atrophy of body fat and the liver parenchyma was pale orange/brown with a mottled appearance. A small number of adult *Fasciola hepatica* were present. Histopathology confirmed chronic hepatic fibrosis affecting both portal and centrilobular areas with bile duct proliferation. The pathology was suggestive of chronic toxic hepatopathy caused by pyrrolizidine alkaloids. It was confirmed that ragwort (*Senecio jacobaea*) was present in the silage fields which have since been sprayed with herbicide. Ragwort retains its toxicity in conserved forages and is more likely to be eaten in hay or silage than in its fresh state. Clinical disease is most often due to chronic exposure with small amounts eaten over a long period of time and may not develop until after ragwort ingestion has ceased. In this case a total of seven cows became ill, six of which died. Fifty per cent of a

group of 25 store cattle were ill thriven after being fed the same silage.

A six-week-old suckled calf was found dead with no preceding clinical signs. There had been six deaths in the group in the previous two weeks, but no investigation had been carried out. On farm postmortem examination found all internal organs to be pale but the cause of death was not evident. Small intestinal contents tested negative for epsilon toxin and histopathology did not provide a diagnosis. *Anaplasma phagocytophilum* was detected on PCR of spleen and was considered potentially significant for the rest of the group. The kidney lead result of 41.6 mg/kg fresh tissue (FT) (reference range <0.5mg/kg FT) was diagnostic for lead poisoning. Inspection of the field found an old tractor battery to be the source of lead.

A group of 40 youngstock on a different holding were turned out and two developed clinical signs typical of lead poisoning three and five days later. A 14-month-old Aberdeen Angus cross was blood sampled and a lead result of 2.6 umol/l (reference range 0 – 0.15 umol/l) confirmed the suspected diagnosis. A discarded battery was also found in this case. Food Standards Scotland was informed of both incidents. Cases of lead poisoning always peak in the weeks post turn out, and it is good practice to walk round pastures before cattle are introduced for the first time.

Parasitic diseases

Thirty, 18-month-old homebred dairy heifers were turned out onto rough grazing for the first time. Four weeks later, two had died and four were dull and anaemic with packed cell volumes (PCV) ranging from 11 to 17 per cent (reference range 30–45 per cent). On farm postmortem examination of one confirmed carcass pallor with an orange liver and dark red urine. Histopathology identified

liver necrosis consistent with prolonged hypoxia associated with anaemia. *Babesia* sp were not seen on blood smears but spleen was PCR positive with a final identification of *Babesia divergens*.

Generalised and systemic conditions

Two animals from a group of 30 became acutely dull and pyrexial with rapid deterioration and death despite treatment with antibiotics and NSAIDs. The carcass of a 14-month-old Simmental cross heifer was submitted to investigate the cause. Postmortem examination identified severe, widespread ulceration of the upper respiratory and gastrointestinal tracts (Fig 1) together with pleural haemorrhages and cranioventral pneumonia. Differential diagnoses included malignant catarrhal fever (MCF) and mucosal disease. BVD antigen was not detected but PCR testing of spleen was positive for ovine herpesvirus-2 confirming MCF as the cause of death. The source of infection was not clear from the history.



Figure 1 – Ulceration of the hard palate in a case of malignant catarrhal fever

A six-day-old Charolais cross bull calf was found dead four days after being turned out to grass. It was the only loss from the group and had appeared healthy the previous day. The carcass was pale with yellow-tinged

subcutaneous oedema and petechial haemorrhages on the heart and kidneys. The spleen was enlarged and haemorrhagic and there was evidence of a mild abomasitis. The zinc sulphate turbidity (ZST) test result of 19 units (reference range >20 units) indicated reasonable transfer of colostral antibodies. Septicaemia was suspected and *Listeria monocytogenes* was isolated in pure growth from the spleen and mixed growth from the liver. Histopathology detected Gram-positive bacterial colonies consistent with *Listeria monocytogenes* in the liver in association with tissue necrosis and inflammatory cell infiltration. *Listeria monocytogenes* is present in soil and contamination of the cow's teats would be a possible source of infection in this case with a bacteraemia secondary to abomasitis.

SMALL RUMINANTS

Musculo-Skeletal conditions

Two, three-week-old lambs from a flock of 220 developed progressive tetraparesis with proprioceptive deficits. They were treated with oxytetracycline plus vitamins E and B but were euthanased after they became recumbent. Postmortem examination found focal vertebral body osteomyelitis (Fig 2) causing spinal cord compression at T1 in the ewe lamb and C4 in the castrated male. A moderate pure growth of *Bibersteinia trehalosi* was cultured from the T1 lesion and a profuse pure growth of *Staphylococcus aureus* from the C4 lesion. The occurrence of vertebral osteomyelitis in two lambs involving different bacteria was considered unusual. The pathology explained the clinical signs, but no other evidence of bacterial infection was detected elsewhere in either carcase. The aetiology was not clear but introduction of bacteria during injections into the neck or haematogenous spread to sites of vertebral trauma were suggested. No ticks were found on the carcasses and screening for *A. phagocytophilum* was not carried out.

Further investigation was recommended if more cases occurred but there were no additional submissions.



Figure 2 – Vertebral body osteomyelitis in a three-week-old lamb

Renal diseases

A flock of 1,300 Texel cross lambs reported seven deaths from 400 recently castrated male lambs, prompting submission of one live recumbent lamb and one freshly dead lamb for investigation. The lambs had been castrated 7 days earlier using the Numnuts® system with concurrent administration of meloxicam, a clostridial/pasteurella vaccination and oral levamisole. Postmortem examination found bilateral haemorrhagic lesions of the renal medulla with pale necrotic centres in both cases (Fig 3). Histopathology confirmed multifocal coagulative to liquefactive necrosis of the renal crest/medulla with associated congestion, haemorrhage and tubular injury. The live lamb had markedly increased urea and creatinine results (urea 131.3mmol/l (reference range 4–8mmol/l); creatinine 879 umol/l (reference range 0–150umol/l) confirming severe acute renal dysfunction. There was no evidence of systemic bacterial infection or bacterial nephritis. The finding of renal crest necrosis was considered most consistent with NSAID-associated acute kidney injury, likely exacerbated by reduced water intake following castration. A New Zealand study noted raised

urea/creatinine and reduced daily liveweight gains in lambs treated with meloxicam at the time of castration and tail docking, compared to those treated with firocoxib and sham treated lambs.¹ A review of meloxicam dosing and administration was recommended. Further submission of any ill thriven castrated lambs was encouraged as additional subclinical renal injury within the cohort was considered possible. This case is of note as with increased interest in welfare and analgesia around castration of lambs, the off-licence use of NSAIDs may increase.



Figure 3 – Renal crest necrosis following administration of NSAIDs in a lamb

BIRDS

Two Pekin bantam hens were submitted from a batch of eight that had been purchased the previous year. Both birds had lost weight and become lethargic and anorexic with green diarrhoea also reported. Postmortem examination revealed marked reno-, hepato- and splenomegaly. Sciatic and brachial nerves were unremarkable. Histopathology showed that the liver and spleen were infiltrated by a population of lymphocytes and confirmed that there was no nerve involvement. The mild to moderate pleomorphism and infiltrative nature of the lymphoid population was more consistent with Marek's disease than lymphoid leucosis. As chicks can be infected very soon

after hatching, and the birds had originated from the same source, it was advised that further losses may occur.

MISCELLANEOUS

A 15-year-old male llama from a herd of 85 animals was found in sternal recumbency, frothing at the mouth and showing signs of severe abdominal pain. The group were at grass with hay also provided. Treatment with a spasmolytic and corticosteroids temporarily improved the clinical signs but they continued to recur over the next three days when euthanasia was carried out. Postmortem examination revealed distension of all stomach compartments with green fluid contents containing large numbers of thick green leaves consistent in appearance with rhododendron. Rhododendron contains grayanotoxins which irritate the gastrointestinal mucosa and lead to depolarisation of neurones resulting in neurological signs and cardiac arrhythmias. Toxicity in South American camelids has been described with clinical signs including regurgitation² which was not reported in the current case. Supportive treatment including administration of activated charcoal can be successful.²

1 Kongara K, Purchas G, Dukkupati SR *et al.* Pharmacokinetics and effect on renal function and average daily gain in lambs after castration and tail docking, of firocoxib and meloxicam. *NZ Vet J* 2023; 71(6): 306-14

2 Schregel J, Zdora I, Gerhauser I *et al.* Rhododendron poisoning in alpacas (Vicugna pacos) in Northern Germany. *Vet Res Com*; 2024; 48(3): 1671-81