



Northern Ireland Disease Surveillance Report, July to September

- Lungworm in cattle
- Jejunal haemorrhage syndrome in cattle
- Haemonchosis in lambs
- Aortic rupture in lambs

These are some of the matters discussed in the Northern Ireland animal disease surveillance quarterly report for July to September 2024

CATTLE:

Respiratory diseases

Parasitic pneumonia

Parasitic pneumonia due to *Dictyocaulus viviparus* infection (FIGURE 1) was diagnosed in grazing calves from late July onwards. It was noted that control of lungworm infection can be achieved by both vaccination and appropriate use of anthelmintics, and that development of immunity is also important for protection. A recent publication in the Veterinary Record suggesting the possibility of developing resistance to ivermectin and moxidectin amongst lungworm strains was also noted but this aspect requires further investigation.

Pneumonia (BRD) due to *Mycoplasma bovis* and *Histophilus somni*

BRD was diagnosed in a three-month-old heifer calf which was one of a group at grass, three out of sixteen calves had already died. Grossly there was pleurisy; the anteroventral, middle and cardiac lung lobes showed deep-purple consolidation with necrosis and miliary abscessation present on the cut surfaces. The remaining parenchyma was pinkish grey in colour. Histologically there was acute / sub-acute necrotizing suppurative bronchopneumonia with micro-abscess formation and presence of caseous parenchymal lesions with a core of 'ghost' cells surrounded by a rim of degenerating leucocytes. There was neutrophil aggregation in the airspaces with accompanying fibrinous exudate and expansion of the alveolar walls with inflammatory cells. Bronchitis and bronchiolitis were present with hydropic change and necrosis of epithelium and presence of inflammatory exudate in the airways. *Mycoplasma bovis* nucleic acid was detected in lung tissue by RT-PCR and a profuse growth of *H. somni* was recovered from lung tissue.

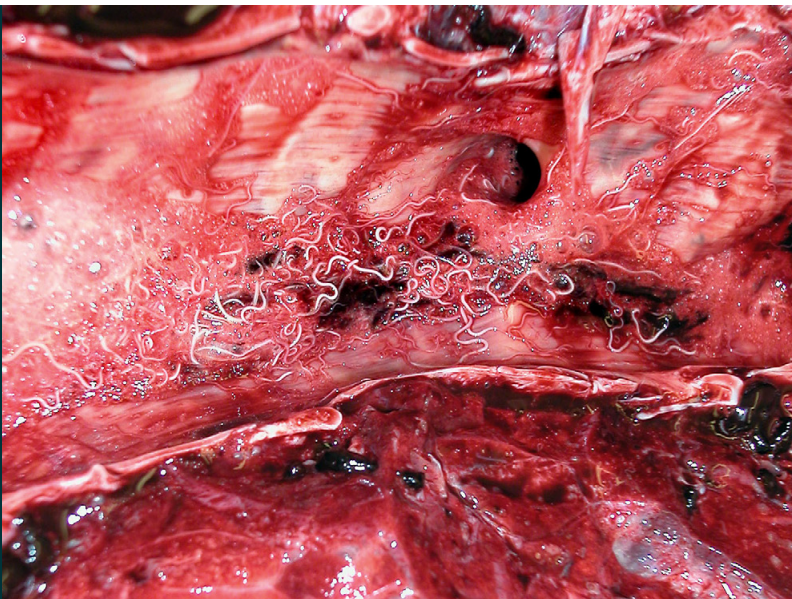


FIGURE 1: Lungworm in the trachea of a first season grazing heifer

Alimentary diseases

Jejunal hemorrhage syndrome was diagnosed in four-year-old cow. At necropsy, the carcass was autolysed; the mucous membranes were pale and there was pallor of the subcutis. The small intestine lumen was full of frank blood and blood clots, with a large blood core present in the terminal jejunum. The changes were considered consistent with jejunal haemorrhage syndrome.

Musculo-skeletal diseases

Numerous cases of blackleg (clostridial myositis) were diagnosed in different herds during the quarter. In one instance the lesions were confined to the myocardium. Vaccination is the only way to prevent this disease and failure to do so can be very costly as outbreaks leading to the loss of several animals usually occur.

Urinary tract diseases

Cystitis and ascending pyelonephritis were diagnosed in an eighteen-month-old heifer submitted with a history of stiffness and possible neurological signs. At necropsy the carcass was fresh, there were no abnormal discharges, the subcutis was unremarkable and there was a strong ureamic smell. There was severe inflammation and thickening of the serosa and mucosa of the bladder with gelatinous oedema of the adjacent abdominal wall. There was an associated fibrinous peritonitis with presence of excess abdominal fluid and "fiery" omentum. There was no evidence of urolithiasis. The bladder wall was cavitated and abscessated with the presence of a large amount of floccular pus. The urine was dark and turbid. There was a severe pyelonephritis with miliary abscessation of the cortex and medulla in both kidneys. The renal pelvis contained floccular pus. Profuse growths of *E. coli* were recovered from the bladder and kidney with moderate growths being recovered from the liver and spleen.

Hydronephrosis, nephritis, cystitis and bladder rupture with uroperitoneum were diagnosed in a thirteen-month-old bull submitted with a history of ascites and clinical chemistry results indicative of kidney failure. *Trueperella pyogenes* was recovered from the bladder and kidney.

Other diseases of cattle

A six-week-old dairy type calf was submitted for postmortem examination when found dead with no prior clinical signs. At necropsy, old bilateral fractures to the first ribs were present with resultant callus formation. These bilateral calluses had occluded the thoracic inlet (FIGURE 2- next page) causing bloat. A bloat line was evident on the oesophageal mucosa.

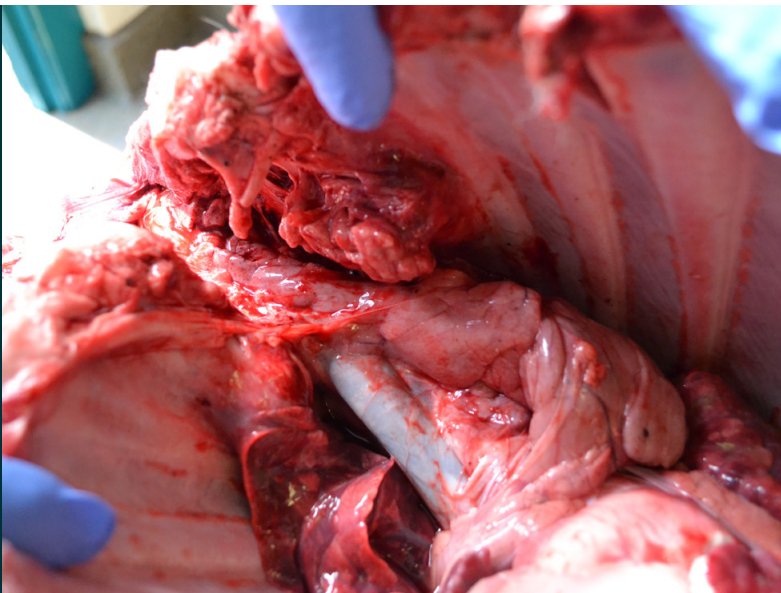


FIGURE 2: Callus formation following rib fracture, oesophageal occlusion and bloat were the result in this calf

SMALL RUMINANTS: SHEEP

Alimentary diseases

Coccidiosis and intestinal perforation in a lamb

Coccidiosis, confirmed by parasitology and histology was diagnosed in a four-month-old lamb. There was an associated perforation of the caecum with fibrinous inflammation and occlusion of the bowel lumen. There was an associated peritonitis.

Haemonchosis in lambs

Haemonchosis in first season lambs was diagnosed in several different flocks from July onwards. In a typical case, a three-month-old lamb was submitted for postmortem examination. The lamb was one of approximately twenty deaths at pasture. The lamb carcass was pale, and blood was thin suggestive of anaemia. There were gastric nematodes leading to suspicion of haemonchosis, subsequently confirmed on parasitology. There was a heavy mixed burden of abomasal worms (*Haemonchus*, *T. circumcincta*, and *Ostertagia*) and small intestinal worms (*Nematodirus* and *Cooperia*). There were high numbers of coccidial oocysts in faeces. Both pathogenic and non-pathogenic species of coccidia may contribute to faecal coccidial oocyst counts.

Haemonchus contortus (FIGURE3) infection is becoming a more frequent diagnosis in Northern Ireland. In early Spring, AFBI warned that *Haemonchus* infection may be prevalent amongst growing lambs in the summer months during 2024. Last year, unprecedented, localised increase in *Haemonchus* infection in sheep was noted, likely linked to the mild wet climatic conditions. As a result, pasture in affected areas is likely to be contaminated by parasite eggs surviving from last season, and yearling animals are likely to be carrying hypobiotic larvae, which will be a source of infection for growing stock later in the season. *Haemonchus* infection causes profound anaemia in lambs, often with scour which may be blood-stained. Animals succumb rapidly, and numerous losses can occur in affected flocks.



FIGURE 3: Posterior end of a male *Haemonchus contortus* parasite. The dark-coloured sharp 'spicules' assist in copulation, and allow microscopic identification of the worm in the laboratory

Nutritional and metabolic disease

Acidosis and bloat were diagnosed in an adult ewe being fed a straw based diet during the drying off period. The rumen contents were fibrous but foamy with an acidic smell and a pH of 5.2. In an autolysing carcass, this was taken to signify acidosis. Anterior carcass congestion and a well demarcated oesophageal bloat line were also present.

Neurological diseases

Cerebrocortical necrosis (CCN)

CCN was diagnosed in a three-month-old lamb. At necropsy the brain showed apple green fluorescence under ultraviolet light and the diagnosis was confirmed by histology. There was an intercurrent parasitic gastro-enteritis.

Cardiovascular disease

Gross postmortem examination of a four-year-old ewe identified valvular vegetative endocarditis, pulmonary abscessation, pleuritis and heart failure. *Trueperella pyogenes* was recovered from the heart valve and pulmonary abscess. There is also evidence of chronic fasciolosis.

Ruptured aorta was diagnosed in a six-month-old lamb which died suddenly whilst being sheared. At necropsy there was blood clot adherent to the great vessels at the base of the heart and a full thickness tear evident in the wall of the aorta. Histology showed vacuolation of muscle cells in the region of the tear.