REGIONAL VETERINARY LABORATORIES REPORT

June 2025

Regional Veterinary Laboratories (RVLs) carried out necropsy examinations on 448 carcases and 27 foetuses during June 2025. Additionally, 1,989 diagnostic samples were tested to assist private veterinary practitioners with the diagnosis and control of disease in food producing animals. This report describes a selection of cases investigated by the Department of Agriculture, Food and the Marine's (DAFM) veterinary laboratories in June 2025.
The objective of this report is to provide feedback to veterinary practitioners on the pattern of disease syndromes at this time of the year by describing common and highlighting unusual cases. Moreover, we aim to assist with future diagnoses, encourage thorough investigations of clinical cases, highlight available laboratory diagnostic tools, and provide a better context for practitioners when interpreting laboratory reports.

Cattle

Pneumonia and enteritis were the most common diagnoses at necropsy in cattle in the RVLs during June 2025.

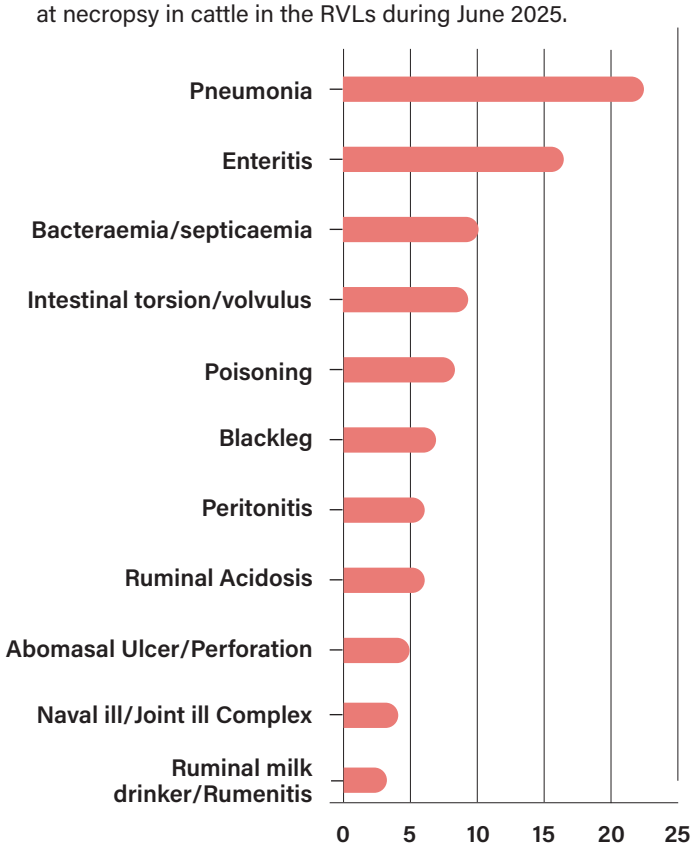

Table 1: **The most common diagnoses in cattle submitted for necropsy in June 2025.**

Gastrointestinal Tract

Jejunal Atresia

A two-day old pedigree Limousin bull calf was euthanised and submitted to Limerick RVL with a distended abdomen, and a history of not passing faeces. Intestinal atresia was suspected, and this was the third suspected case in this herd. Necropsy revealed atresia in the jejuno-ileal area of the intestines with a build-up of fluid contents proximal to this blockage. It was confirmed as a Type 2 Jejunal Atresia. Causes of the occurrence of atresia are not fully understood but an ischaemic insult to the blood vessels of the affected portion of the gut has been discussed as a potential cause. Atresia of the intestine is reported across all domestic species, and it is usually considered a sporadic event, although there may be a hereditary aetiology in some breeds.

Figure 1: **Atresia in the jejuno-ileal area of the intestines of a neonatal calf. Photo: Brian Toland.**

Congenital hepatic fibrosis

Athlone RVL examined a four-month-old calf with a history of having been treated for peritonitis two weeks previously, without improvement. The calf was suckling on the cow but always "looked empty". On gross post-mortem examination, the body condition was poor, weighing 80kg. The carcase was jaundiced, and the liver was enlarged, jaundiced, and very tough to cut. There was mild to moderate renal jaundice, and golden-coloured urine. Faeces in the distal large intestine were firm. Hepatic and renal cortex copper tissue concentrations were normal and polymerase chain reaction (PCR) tests for tick-borne fever (TBF) caused by *Anaplasma phagocytophilum*, *Babesia divergens* and leptospirosis were negative.

Figure 2: **Congenital hepatic fibrosis in a calf; the liver was enlarged, jaundiced, and very tough to cut. Photo: Denise Murphy.**

Histopathology of the liver found, distorting the normal hepatic architecture, there were prominent bands of fibrosis - primarily in periportal areas with portal-to-portal bridging and to a lesser extent in periacinar areas. There was extensive hyperplasia of small bile ducts at the periphery of the portal areas. Within these areas, arterioles were frequently prominent and venules frequently difficult to discern. The areas of portal fibrosis contained small numbers of macrophages with intracytoplasmic golden-brown granules (haemosiderin) and multifocal aggregates of lymphocytes. Randomly and multifocally there were small areas of hepatocyte necrosis. Hepatocyte morphology was otherwise normal. The gross finding and histopathological changes are consistent with a diagnosis of congenital hepatic fibrosis. This is an uncommon sporadic condition, possibly with an underlying genetic basis.

Respiratory Tract

Figure 3: **Pneumonia with cranioventral consolidation in a month-old calf. Photo: Aideen Kennedy.**

Pneumonia

A one-month-old calf was found dead and submitted to Kilkenny RVL . On examination, there was pneumonia with cranioventral consolidation affecting approximately 40 per cent of lung tissue. Laboratory testing identified *Pastuerella multocida* and *Histophilus somni*. A review of respiratory disease control was recommended.

Figure 4: **Mucopurulent necrotic debris visible in the trachea of a suckler calf. Photo: Brian Toland.**

Limerick RVL examined a six-week-old suckler calf that had shown no response to treatment for pneumonia.

Necropsy revealed a severe, fibrinous pneumonia and pleuritis involving the left and right cranioventral lobes, with mucopurulent necrotic debris visible in the trachea and bronchi. There were positive PCR values for *P. multocida* and *H. somni* indicating a multi-agent bacterial pneumonia.

Figure 5: **Severe, fibrinous pneumonia and pleuritis in a suckler calf involving the left and right cranioventral lobes. Photo: Brian Toland.**

Embolic pneumonia

A one-month-old suckler calf with a history of dystocia and inability to stand for a week was submitted to Limerick RVL. It had been treated for an umbilical infection, enteritis, and pneumonia. Necropsy revealed multifocal-to-coalescing nodules with a marbled appearance on the surface of the lungs with fibrinous pleuritis. Incision into the lungs revealed multifocal abscesses and bullae of varied sizes (bullae are air-filled spaces >1cm in diameter within the lung, which have developed because of emphysematous destruction of the pulmonary parenchyma). A mixed bacterial growth was cultured from the lungs. A diagnosis of chronic embolic pneumonia was made, which is likely secondary to an earlier bacteraemia and may have been related to the previous umbilical infection.

Figure 6: **Multifocal-to-coalescing nodules with a marbled appearance on the surface of the lungs in a case of embolic pneumonia in a month-old suckler calf. Photo: Brian Toland.**

Infectious bovine rhinotracheitis and posterior vena caval thrombosis

Athlone RVL examined a four-year-old cow with a history of upper respiratory tract clinical signs: rhinitis and respiratory stertor. The referring PVP was suspicious of infectious

bovine rhinotracheitis (IBR), as there had been a recent respiratory outbreak of seven cases with two deaths on the holding. On post-mortem examination, there was a severe, diffuse, fibrino-necrotic tracheitis with a suppurative diphtheritic membrane consistent with IBR infection. In addition, there was a large fibrous adhesion between the liver and the diaphragm and a large septic embolism in the caudal vena cava abutting the liver. There was pulmonary consolidation of the right anteroventral lung lobe and multifocal septic foci throughout all lung lobes (presumed to be septic pulmonary thromboemboli). Both bovine herpesvirus 1 (BHV-1, the causative organism of IBR) and bovine herpesvirus 4 (BHV-4) PCR results were positive. A conclusion of IBR and posterior vena cava thrombosis with pulmonary thromboembolism was made.

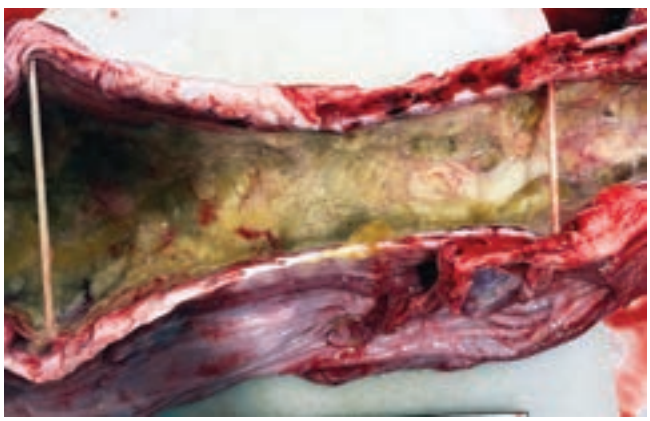

Figure 7: **Severe, diffuse, fibrino-necrotic tracheitis with a suppurative diphtheritic membrane in a cow, consistent with IBR infection. Photo: Denise Murphy.**

Cardiovascular System

Malignant catarrhal fever

A five-year-old cow was presented to Kilkenny RVL with a history of respiratory signs prior to death. On post-mortem examination, there were haemorrhages on multiple organs including the brain, bladder and abomasal mucosa, kidneys, and lung. A bacteraemia/septicaemia or viremia was suspected. Histopathology of the affected organs revealed a marked lymphocytic vasculitis, which is consistent with ovine herpesvirus 2 infection known as malignant catarrhal fever (MCF). Subsequent PCR testing returned a positive result for this virus. This disease in cattle is usually sporadic and affects single animals. MCF is typically fatal; however, there have been outbreaks in which several animals are affected, with evidence of recovery and mild or inapparent infections in some cases. It also occasionally presents as chronic alopecia and weight loss. The principal carriers of OHV-2 are sheep. MCF is transmitted only between inapparent carriers (sheep) and clinically susceptible animals (cattle, deer). Affected animals do not transmit MCF to cohorts.

Musculo-skeletal System

Blackleg

A yearling Limousin-cross bull was found dead at pasture and was submitted to Limerick RVL. Blackleg was suspected and this suspicion was reinforced when it was confirmed that none of the animals had received clostridial vaccinations. Post-mortem examination revealed wet, dark, red/black, oedematous muscle with crepitation in the neck and head, a fibrinous pericarditis, and a spongy liver. Impression smears from these muscle lesions confirmed blackleg (*Clostridium chauvoei*) using fluorescent antibody technique (FAT). A review of the farm's vaccination regime, with use of a multivalent clostridial vaccine, was recommended.

Figure 8: **Muscle lesions in a bull from which *Clostridium chauvoei* was identified by fluorescent antibody technique. Photo: Brian Toland.**

Polyarthritis and pneumonia

A five-week-old calf with swollen joints was submitted to Kilkenny RVL. There was a history of swollen joints in both cows and calves in the herd of origin. On post-mortem examination, the calf had pneumonia predominantly affecting the cranial lobes. In addition, multiple joints were enlarged and contained purulent material. *Mannheimia haemolytica* and *Trueperella pyogenes* were cultured from the lung. *Mycoplasma bovis* was identified by PCR in both the joints and the lungs.

Figure 9: ***Mycoplasma bovis* was identified by polymerase chain reaction in multiple joints of a calf that were enlarged and contained purulent material. Photo: Aideen Kennedy.**

Omphalitis/hepatitis

Athlone RVL examined a two-month-old calf with a history of not drinking milk for two days before it died. On gross post-mortem examination, the umbilicus was thickened and there was a thick, fibrous tract running internally from the umbilicus to the liver, i.e., a remnant of the umbilical vein,

and it was dilated with pus, blood clots and necrotic debris. The liver was enlarged, with a large area of suppuration and necrosis at one end, and foul-smelling bloody material containing blood clots in large hepatic blood vessels. There were multifocal small abscesses in the right cranial lung lobe. *T. pyogenes* was isolated from liver. A conclusion of necrotic hepatitis secondary to an umbilical infection was made.

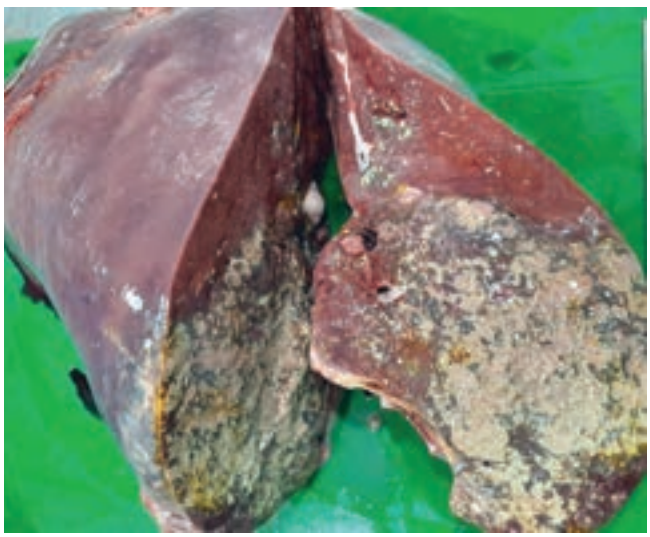

Figure 10: **Necrotic hepatitis secondary to an umbilical infection in a calf. Photo: Denise Murphy.**

Poisonings

Copper toxicity

A three-month-old calf was submitted to Kilkenny RVL with a history of having passed red urine. On examination, the carcase was jaundiced, the liver was orange-coloured, the kidneys were dark, and the urine was 'port wine-coloured.' The histopathology changes were suggestive of copper toxicity, and biochemistry results on testing of the liver confirmed high copper concentrations. A review of mineral supplementation was advised.

Figure 11: **Copper toxicity in a calf; orange-coloured liver, dark kidneys, and port wine-coloured urine. Photo: Aideen Kennedy.**

Miscellaneous Systems

Polyserositis

Athlone RVL examined a one-week-old calf with a history of sudden death. There was a diffuse fibrinous peritonitis with fibrinous adhesions between loops of intestine, and a layer of fibrin on the liver and thickened urachal vessels. There was milk in the rumen and yellow loose faeces. There was a diffuse fibrinous pleurisy and pericarditis. The joints were unremarkable. Zinc sulphate turbidity test (ZST) results of 13 units indicated suboptimal colostral immunity. Rotavirus and a moderate *Cryptosporidium parvum* oocyst burden were detected in the faeces and *Escherichia coli* was isolated from several tissues. A diagnosis of fibrinous peritonitis, pleurisy, and pericarditis secondary to hypogammaglobulinaemia was made.

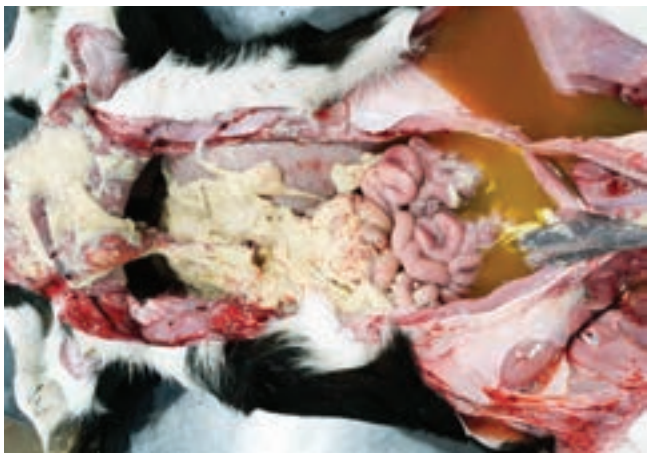

Figure 12: **Fibrinous peritonitis, pleurisy, and pericarditis. Photo: Denise Murphy.**

Oesophageal obstruction

A 10-month-old bullock presented to Kilkenny RVL with a history of bloat. On post-mortem examination, a large piece of fodder beet was found lodged in the oesophagus cranial to the thoracic inlet (cervical region). There was also torsion of the intestines around the root of the mesentery, likely subsequent to reduced gastrointestinal tract motility. Oesophageal obstruction is the most common oesophageal disease in large animals. Cattle tend to obstruct on a single, solid object (e.g., beets, potatoes, turnips).

Figure 13: **A large piece of beet was found lodged in the oesophagus of a bullock, cranial to the thoracic inlet. Photo: Lisa Buckley.**

Lymphoma

An 11-year-old cow was presented to Kilkenny RVL with a history of milk drop. On post-mortem examination, there was a ruptured aortic aneurysm. There were multifocal, pale, circular lesions throughout the hepatic parenchyma.

The kidneys appeared enlarged and pale with multifocal black lesions unilaterally. On histopathology of the affected organs, sheets of round cells distorted the normal architecture of the liver and kidneys. A round cell tumour, e.g., lymphoma, was considered a differential for the changes seen. Lymphosarcoma/lymphoma in cattle may arise spontaneously (referred to as "sporadic") or result from infection with bovine leukaemia virus (BLV), which was ruled out by testing in this case.

Figure 14: **Lymphoma in a cow; enlarged and pale kidneys with multifocal black-coloured lesions unilaterally. Photo: Lisa Buckley.**

Sheep

Parasitic gastroenteritis and tick-borne fever were the most common diagnoses at necropsy in sheep in the RVLs during June 2025.

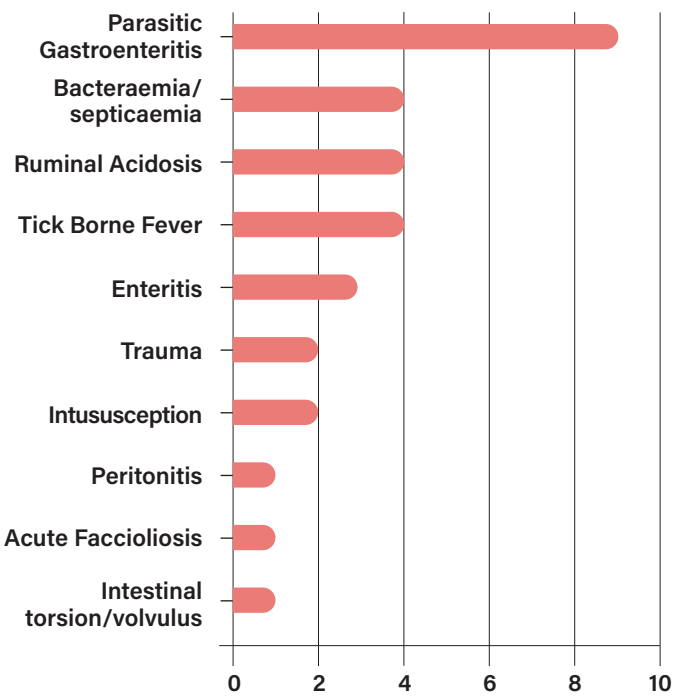

Table 2: **The most common diagnoses in sheep submitted for necropsy in June 2025.**

Gastrointestinal Tract

Parasitic gastroenteritis (haemonchosis)

A 16-month-old ram with a history of weight loss was submitted to Kilkenny RVL. The mucous membranes and carcase were pale. There were large numbers of *Haemonchus contortus* visible in the abomasum. There was moderate abomasum fold oedema, and the intestinal contents were fluid in consistency. McMaster results identified 27,500 strongyle eggs per gram (EPG). Examination of cohorts for signs of anaemia, and a review of parasite control were recommended.

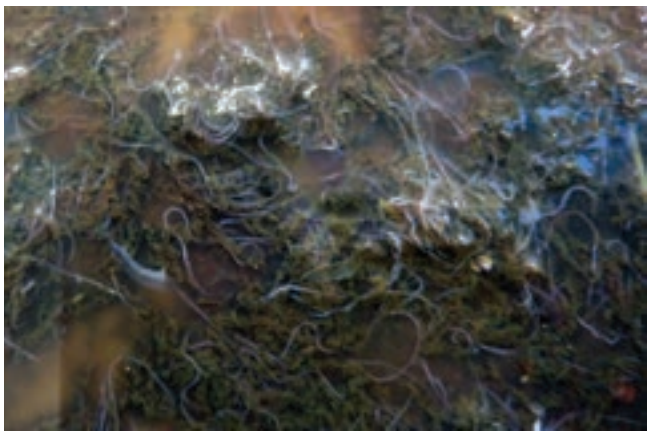

Figure 15: **Large numbers of *Haemonchus contortus* visible in the abomasum of a ram. Photo: Aideen Kennedy.**

Small Intestinal adenocarcinoma

A small intestinal adenocarcinoma was diagnosed in a four-year-old ewe submitted to Cork RVL with a swollen abdomen, which had been found recumbent and unable to stand. The ewe was euthanised by the veterinary practitioner on welfare grounds. On post-mortem examination, the carcase displayed poor body condition and had a distended abdomen. Upon opening the carcase, there was a substantial amount of clear peritoneal effusion (ascites). A large section of the jejunum (approximately 30cm in length) was thickened and had coalescing white plaques on the serosal surface and omentum. On a transverse section of the intestine, the wall was distended, had significant fibrosis, and occasionally showed polypoid formations on the mucosal surface.

Figure 16: **Coalescing white plaques on the serosal surface of the jejunum. Photo: Cosme Sànchez-Miguel.**

Histological examination revealed that the small intestine showed extensive 'signet ring cells' in the intestinal epithelium, characterised by mucin-filled cytoplasm and disruption of the villi and intestinal architecture. The

serosal surface was infiltrated by anaplastic epithelial cells surrounded by a marked dense connective tissue (scirrhous tissue). Patchy infiltrates of lymphocytes were also present in the intestinal submucosa. Multifocal tubular and acinar structures lined by cuboidal epithelium (metastases) were also noted in the lungs.

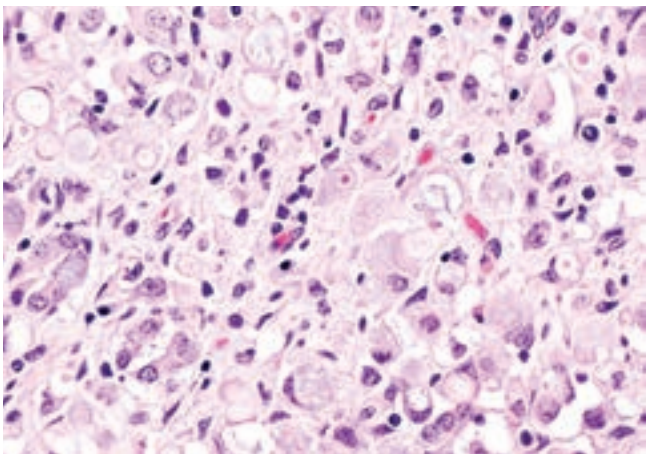

Figure 17: **Intestinal adenocarcinoma in a ewe. Photo: Cosme Sànchez-Miguel.**

The aetiology of adenocarcinoma of the small intestine of sheep is unknown. There is no evidence of viral aetiology. Ingestion of bracken fern might be one of the complex causal factors, but the tumour is also common in areas where there is no bracken.

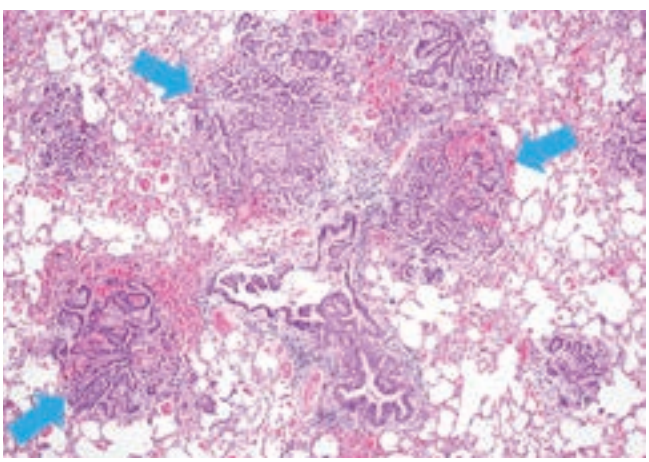

Figure 18: **Multifocal tubular and acinar structures lined by cuboidal epithelium, likely to be metastases, in the lungs. Photo: Cosme Sànchez-Miguel.**

Respiratory Tract

Laryngeal chondritis

Limerick RVL carried out a post-mortem on a three-year-old Texel-cross ewe which had dyspnoea. A few cohorts were similarly affected, and 'Texel throat' (laryngeal chondritis) was suspected. Necropsy of the larynx revealed laryngeal oedema, more pronounced on the left-hand side, with narrowing of the airways; incision of the arytenoid cartilage revealed abscessation involving the tracheal cartilage, and the retropharyngeal lymph nodes were markedly enlarged. *T. pyogenes* was cultured from the abscess. A diagnosis of laryngeal chondritis was made. The exact cause is unknown and linked to certain breeds such as Texels. Trauma to the laryngeal mucosa from coughing, rough feeding, or intubation allows opportunistic bacteria to invade leading to abscessation. It is often a chronic and progressive disease with poor prognosis in advanced cases.

Figure 19: **Laryngeal chondritis or 'Texel throat' in a ewe. Photo: Brian Toland.**

Urinary/Reproductive Tract

Urolithiasis

A three-month-old lamb was submitted to Kilkenny RVL with a history of developing a swollen abdomen. On opening the carcase, there was fluid in the abdomen. The bladder wall was inflamed and there was a small perforation, allowing urine to enter the abdominal cavity. Urinalysis identified struvite crystals in the fluid collected from the abdomen. In addition, the intestinal contents were very fluid in consistency and there was a high faecal coccidial oocyst count. High-concentrate, low-forage rations will predispose to urolithiasis. Systemic illness and unpalatable water can result in reduced water intake and dehydration, also increasing urolith component concentration in urine.

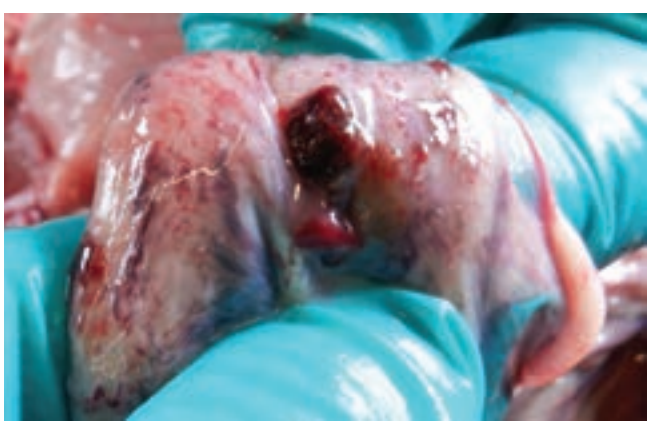

Figure 20: **Inflamed bladder wall of a lamb at site of perforation. Photo: Aideen Kennedy.**

Miscellaneous

Bacteraemia/sarcocystis

Athlone RVL examined a four-year-old ewe with a history of having spasms/fits. On post-mortem examination, there were multifocal small nodular lesions in the wall of the heart and also in the cortex and medulla of the kidney. The right

lung showed evidence of hepatisation. No visible lesions were observed in other organs. *Staphylococcus aureus* was cultured from the kidney. Histopathology showed multifocal pyogranulomas with variable numbers of bacteria present in the kidney. In the heart, there were large numbers of intracellular encysted protozoal life stages (sarcocysts) present in the myocardium. Multifocally, areas of heart muscle were effaced and expanded by large numbers of viable and degenerate neutrophils and macrophages with large numbers of bacteria. Often adjacent cardiomyocytes were necrotic and degenerate. The cardiac and renal lesions were consistent with ongoing bacteraemia. These findings are consistent with bacteraemia following acute rumenitis. The presence of large numbers of sarcocysts in heart make interpretation more difficult as some lesions may be caused by decaying or degenerating parasitic life stages. The herdowner was advised that fallen stock should be disposed of in a timely and appropriate manner and the carcases protected from scavenging.

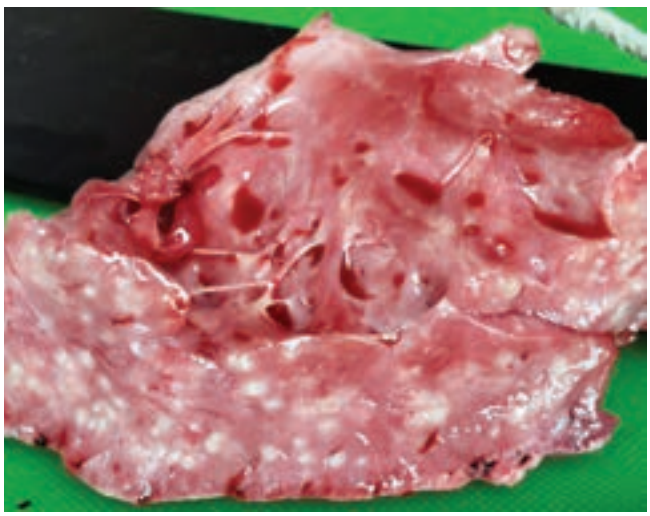

Figure 21: **Multifocal small nodular lesions in the wall of heart, diagnosed as sarcocysts upon histopathology. Photo: Seamus Fagan.**

Goats

Ruminal acidosis

A seven-year-old Pygmy nanny goat was found dead and submitted to Limerick RVL. The animal had been dead for a couple of days before submission and was poorly preserved. Necropsy revealed a distended rumen with large quantities of undigested grains and watery yellow forage. The ruminal wall was inflamed, and the pH of a sample of ruminal fluid was 4.3. The normal Rumen pH range is 5.5-7.0 and, after one hour post-mortem, the pH of the rumen contents begins to increase; this should be considered when interpreting results. A diagnosis of rumen acidosis was made.

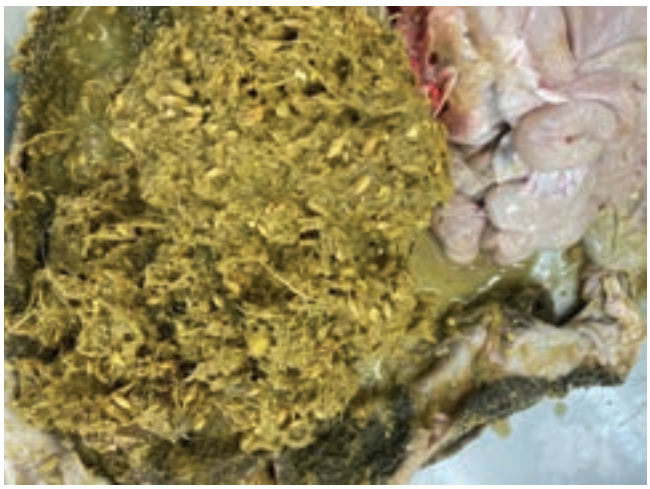

Figure 22: **Distended rumen of a goat with large quantities of undigested grains; the pH of a sample of this ruminal fluid was 4.3. Photo: Brian Toland.**

The fall in pH has two effects. Firstly, the ruminal motility ceases, becoming atonic. This depresses appetite and production. Secondly, the change in acidity changes the rumen flora, with acid-producing bacteria taking over. They produce more acid, making the acidosis worse. The increased acid is then absorbed through the rumen wall, causing metabolic acidosis, which in severe cases can lead to shock and death. The primary cause of metabolic acidosis is including a high proportion of rapidly digestible carbohydrate in the diet, such as wheat, barley, other cereals, and lush leafy grass which is low in fibre and high in sugars. A review of the diet was advised.