REGIONAL VETERINARY LABORATORIES REPORT

April 2025

Regional Veterinary Laboratories (RVLs) carried out necropsy examinations on 841 carcases and 55 foetuses during April 2025. Additionally, 1,879 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 April 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

Enteritis and pneumonia were the most common diagnoses at necropsy in cattle in the RVLs during April 2025.

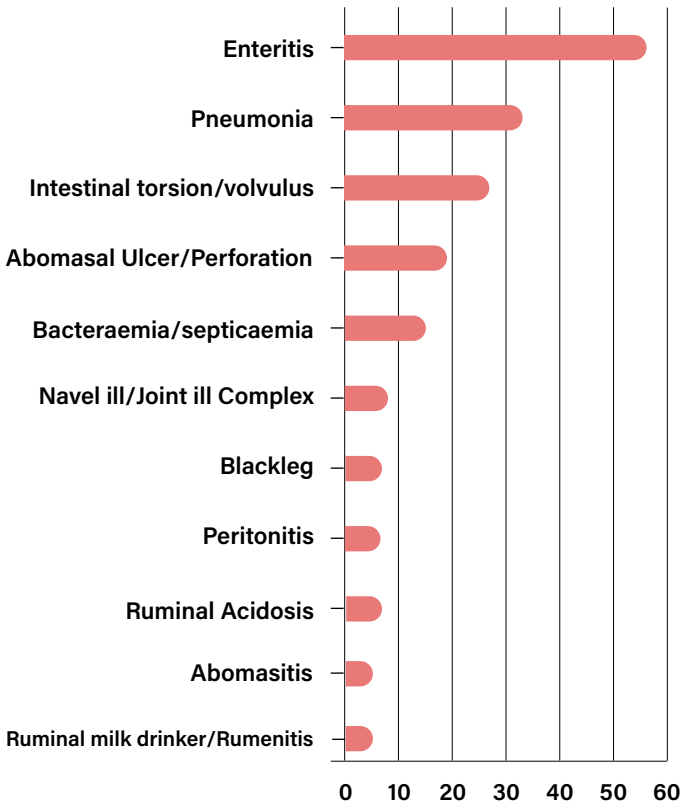


Table 1: **The most common diagnoses in cattle submitted for necropsy in April 2025.**

Gastrointestinal Tract

Parasitic gastroenteritis

A fourteen-month-old Limousin-cross bullock (with a history of scour and ill-thrift) which had failed to respond to treatment with antibiotics was examined at Limerick RVL. Upon necropsy, its abomasum was found to be thickened with a leathery mucosa and a marked cobblestone appearance, which is suggestive of trichostrongyle parasitism. Laboratory findings recorded a very high worm burden of 1,250 eggs per gram (EPG) and very low copper concentrations in liver samples. A diagnosis of parasitic gastroenteritis (PGE) was made. Parasitism may be more severe in copper deficient animals. The herdowner was advised to arrange blood testing cohorts for copper status and submission of faecal samples for parasitology.

Figure 1: **Abomasal mucosa of a yearling bullock in a case of parasitic gastroenteritis. Photo: Brian Toland.**

Atresia jejuni

Athlone RVL examined a three-day-old calf with a history of sudden death. The carcase preservation was poor. There was a jejunal atresia with dilated intestines proximal to the stricture and small, empty, contracted intestines distal to the atresia. A mild fibrinous peritonitis was also present. A diagnosis of atresia jejuni was made.

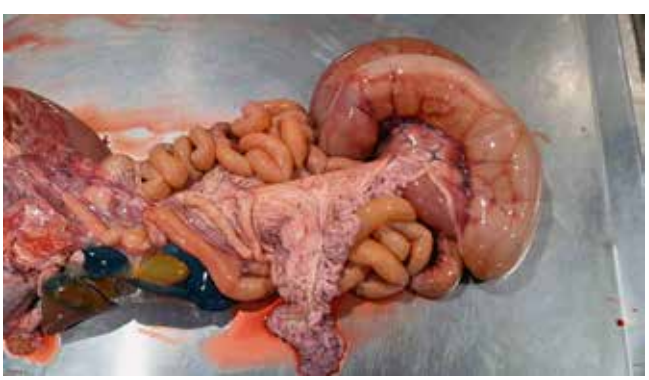


Figure 2: **A jejunal atresia in a three-day-old calf with a history of sudden death. Photo: Denise Murphy.**

Perforated abomasal ulcer

A six-week-old, bucket-reared calf was submitted for post-mortem in Athlone RVL with a history of having been sick for 24 hours, with anorexia, had been treated but with no response and died. There was marked abdominal distension due to gaseous distension of the abomasum and rumen.

There was a fibrinous peritonitis in the cranial abdomen, and there was a thick fibrin layer between the omentum and the pylorus. Peeling back the fibrin revealed a perforated abomasal ulcer, 5-10mm in diameter. Histopathology of abomasal mucosa showed a necrotic fibrinosuppurative abomasitis with bacterial colonies. A diagnosis of perforated abomasal ulcer and peritonitis was made.

Figure 3: **Perforated abomasal ulcer in a six-week-old calf. Photo: Denise Murphy.**

Intestinal torsion/volvulus

A two-month-old calf died post-feeding, with no previously observed signs, and was submitted to Kilkenny RVL. On necropsy, there was an intestinal torsion. The ruminal contents were porridge-like, and the pH was acidic; a review of diet was advised. The aetiology of torsions is usually unknown; however, a variety of factors can predispose to the development of torsions. This condition may occur subsequent to increased or decreased gastrointestinal motility which in turn is affected by enteritis, nutritional changes and upsets, gas accumulation and bloat, carbohydrate overload, and acidosis.

Figure 4: **Red dilated intestines in an intestinal torsion. Photo: Aideen Kennedy.**

Johne's disease

A four-year-old cow was submitted to Kilkenny RVL with a history of weight loss. On post-mortem examination, the intestinal contents were very fluid, and there was thickening and corrugation of the jejunal mucosa. There was oedema in the mesentery. *Mycobacterium avium* subspecies *paratuberculosis* was detected in faecal samples by culture and Johne's disease was diagnosed.

Figure 5: **Thickening and corrugation of the jejunal mucosa in a cow where a case of Johne's disease was diagnosed. Photo: Aideen Kennedy.**

Traumatic reticuloperitonitis

A 16-year-old, recently-calved suckler cow, stopped eating three days prior to her death and submission to Kilkenny RVL. On necropsy, there was peritonitis, and a length of wire was found protruding through the reticular wall and penetrating the liver. When metal perforates the reticulum, it can go in different directions. Most perforations occur in the lower cranial wall, but some occur laterally in the direction of the spleen or medially towards the liver.

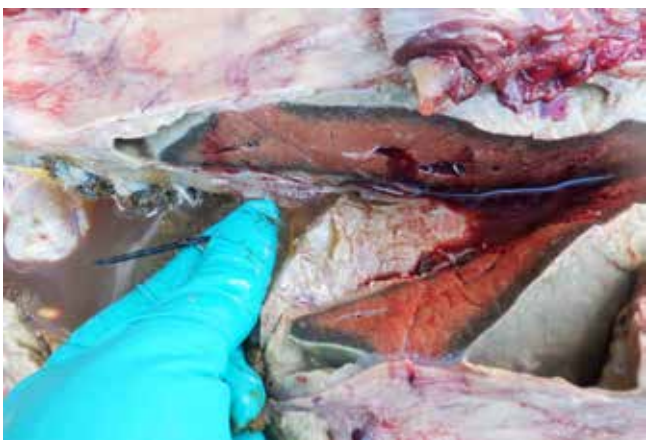


Figure 6: **Traumatic reticuloperitonitis in a cow; a length of wire was found protruding through the reticulum wall and penetrating the liver. Photo: Aideen Kennedy.**

Dosing gun injury

Five calves, between two and three months old (56-70.5kg) were submitted to Dublin RVL. They had been given a mineral bolus three and six days prior. According to the farmer, the clinical signs were pneumonia, bloat, and swollen necks. One died shortly after treatment; the others were euthanised on welfare grounds. On gross examination, they all presented with a severe swelling on the ventral neck corresponding to severe fibrino-necrotic cellulitis. In three calves, a cylindrical, large blue bolus (8x 3cm) was found lodged in an aberrant space formed ventral and adjacent to the oesophagus. The bolus was surrounded by remnants of feed admixed with necrotic material, with a foul smell. In

the remaining two, the same bolus was found in the rumen and reticulum, respectively. In two of the calves, there was severe, diffuse, fibrinous pleurisy and pericarditis and a mild, diffuse, fibrinous peritonitis, likely arising from the cellulitis. A diagnosis of traumatic pharyngeal laceration ('dosing gun injury') was made in all these cases.

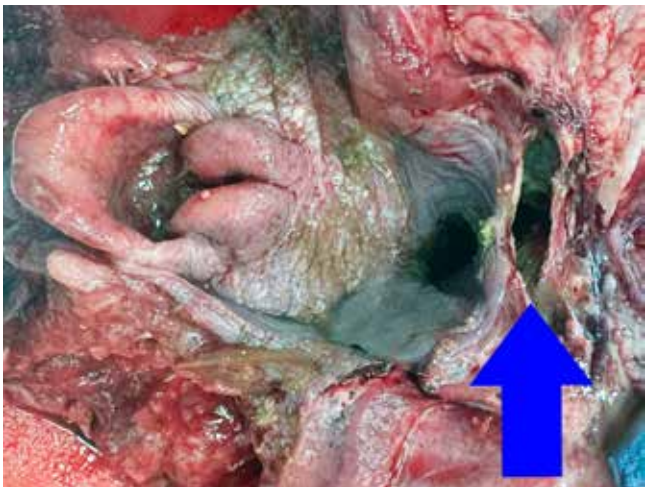


Figure 7: **Perforation (blue arrow) measuring approximately 3 x 2.5cm above the oesophagus of a calf. Photo: Sara Salgado.**

The boluses used were inappropriate for calves, as calf-specific boluses measure 5.3 x 1cm and even at that they are intended only for animals over 100kg. The boluses administered to these calves were significantly larger and completely inappropriate. A review of bolus selection, administration technique, and monitoring of mineral release was strongly recommended.

Figure 8: **Photo from the same animal as above in Figure 7, where the blue bolus can be seen. The bolus was surrounded by large amounts of watery fluid and remnants of feed admixed with necrotic material with a foul smell. Photo: Sara Salgado.**

Typhlitis/septicaemia

Limerick RVL examined a nine-day-old, Hereford-cross bull calf that had been inappetent with no response to treatment for persistent diarrhoea. Post-mortem examination revealed a caecum that was segmentally dark red-to-black in colour and distended with multifocal areas of ulceration, haemorrhage, abscessation, and necrosis (typhlitis); adjacent intestinal loops were distended with gas and areas of vascular congestion. The liver had an orange discolouration; the kidneys were dark red/black in colour and the lungs were congested. *Streptococcus gallolyticus* (formerly *Streptococcus bovis*) was cultured from the spleen, liver, lung, kidneys and intestine; it is a gram-positive bacterium commonly found in the alimentary tract of cattle, sheep, and other ruminants and is an opportunistic pathogen. This is an unusual finding and is less commonly reported as a primary pathogen, and the circumstances suggest a role as a secondary pathogen. Zinc sulphate turbidity (ZST) levels were sub-optimal and intestinal contents were positive for rotavirus, probably creating conditions for bacterial overgrowth. A diagnosis of septicaemia due to *S. gallolyticus* was made.

Figure 9: **Typhilitis in a case of *Streptococcus gallolyticus* septicaemia in a calf. Photo: Brian Toland.**

Respiratory Tract

Pneumonia

A four-week-old and a ten-week-old calf from the same herd were submitted to Kilkenny RVL. On examination, both were found to have pneumonia, with 50 to 60 per cent of lung tissue consolidated cranioventrally. *Histophilus somni, Trueperella pyogenes,* and *Pasteurella multocida* were the main agents identified, and a review of control of respiratory disease was recommended.

Figure 10: **Pneumonia with 50 to 60 per cent of lung tissue consolidated cranioventrally in a calf. Photo: Aideen Kennedy.**

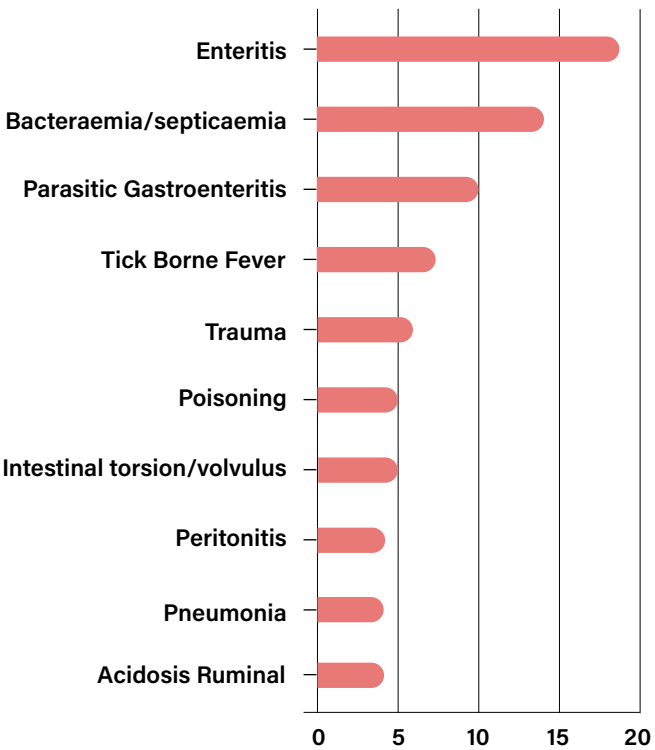
A two-month-old, Aberdeen Angus-cross calf with a history of respiratory signs and of no response to treatment was presented to Limerick RVL. Necropsy revealed consolidation of approximately two thirds of the lungs with a cranioventral distribution. There were positive polymerase chain reaction

(PCR) results for *H.somni, Mannheimia haemolytica, Mycoplasma bovis,* and *P. multocida* and a diagnosis of severe multifactorial bacterial pneumonia was made.

Figure 11: **Pneumonia in a two-month-old calf. Photo: Brian Toland.**

Sheep

Enteritis and bacteraemia/septicaemia were the most common



diagnoses at necropsy in sheep in the RVLs during April 2025.
Table 2: **The most common diagnoses in sheep submitted for necropsy in April 2025.**

Gastrointestinal Tract

Intussusception

Athlone RVL examined a two-day-old lamb with a history of having been found bloated and lifeless, and dying soon after. It was the second similar loss. On post-mortem examination, the abdomen was swollen due to abomasal distension with milk and gas, and the proximal small intestines were distended with fluid, mustard-coloured contents. There was an intussusception in the ileum and distal to this the caecum and colon were empty. Intussusceptions are thought to be the result of irregular peristaltic movements related to enteritis, intestinal parasitism, dietary disorders, and mural masses. In this case, an enteritis was suspected. However, no significant enteric pathogen was detected following faecal testing.

Figure 12: **Ileal intussusception in a two-day-old lamb. Photo: Denise Murphy.**

Atresia colon

A three-day old lamb was submitted to Dublin RVL. According to the farmer, it had a large belly since birth, and intestinal atresia was suspected by the PVP. On gross post-mortem examination, there was moderate abdominal distension, mild diffuse fibrinous peritonitis, and the abomasum contained milk clots; the caecum and proximal colon were severely enlarged, containing a large amount of brown watery fluid. A segment of the distal colon was small in diameter (approximately 2mm) and with no content, other than a very small amount of mucus (no meconium was present). On cross-section, there was meconium accumulation within the empty distal colon. This lesion (atresia coli) prevented normal movement of gut content and meconium, and therefore led to dilation of the proximal segment and progressive abdominal distension. This animal failed to pass faeces after birth.

Figure 13: **The severely enlarged caecum and proximal colon of a three-day-old lamb, containing a large amount of brown watery fluid. Photo: Sara Salgado**

The causes of atresia in domestic animals are not completely understood but it can be a result of mechanical lesions to

blood vessels in a portion of the gut during its development which may be a result of mispositioning, that compromises circulation and results in vascular accidents and ischaemia. The result is segmental atresia in which the affected segment of the bowel is either entirely missing or completely occluded because of a lack of epithelial development and confluence between two contiguous portions.

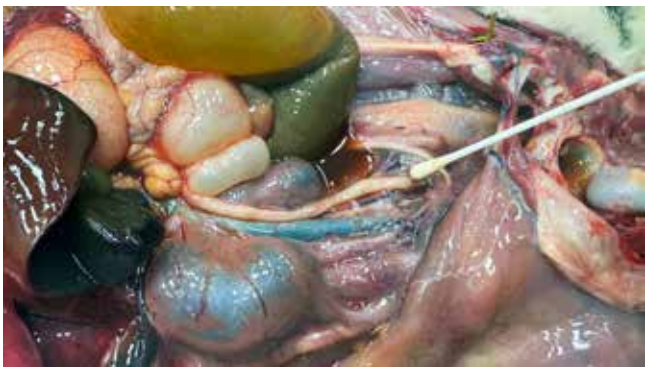


Figure 14: **The segment of distal colon was small in diameter (approximately 2mm) and with no content (white swab pointing). Photo: Sara Salgado.**

Respiratory Tract

Fibrinous pleuritis and pericarditis

Limerick RVL examined a five-week-old Texel cross lamb that was found dead; a number of cohort lambs that appeared healthy were also recently found dead. Post-mortem revealed a severe fibrinous pleuritis and fibrinous pericarditis. There were multifocal fibrinous tags on the serosal surface of intestines, spleen, liver, and kidneys. *M. haemolytica* was cultured from all these organs and a diagnosis of *M. haemolytica* septicaemia and polyserositis was made. This is associated with acute disease and appears to occur most often in animals that have undergone recent stress. Vaccination programmes, both for ewes and lambs, can help to reduce the risk of *M. haemolytica.*

Choke

A one-month-old lamb was found dead and submitted to Kilkenny RVL. On examination, there was a pine cone (approx. 5cm in length) causing an obstruction at the opening of the oesophagus and the larynx, and death due to choke was diagnosed.

Figure 15: **A pinecone (left) causing an obstruction at the opening of the oesophagus and (right) after removal. Photo: Aideen Kennedy.**

Urinary/Reproductive Tract

Nephritis

Athlone RVL examined a three-week-old lamb with a history of sudden death. There was infection at the umbilicus. The right kidney was markedly enlarged (approximately double normal size) and, on cross-section, there was a severe necro-suppurative nephritis. The left kidney contained abscesses on cross-section and the urinary bladder contained pus. Joints were unremarkable. *Staphylococcus aureus* was isolated from the kidneys and bladder. Lesions like these are often associated with tick pyaemia. Tick pyemia is a secondary staphylococcal infection of lambs concurrently infected with the immunosuppressive bacterium *Anaplasma phagocytophilum*. PCR testing for *A. phagocytophilum* was negative. A diagnosis of necro-suppurative nephritis and cystitis possibly secondary to an umbilical infection was made.

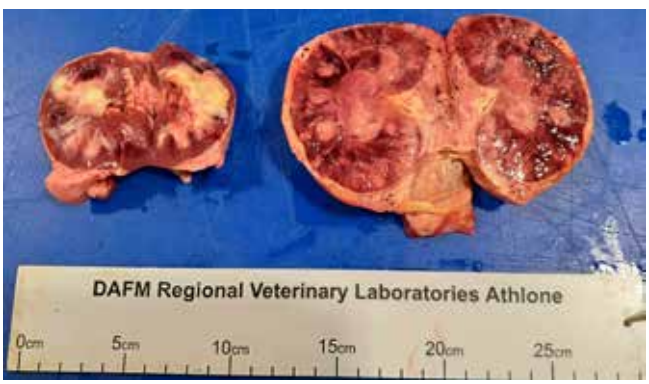


Figure 16: **Kidneys from a case of nephritis in a lamb. Photo: Denise Murphy.**

Poisonings

Copper toxicity

A three-year-old ewe was submitted to Kilkenny RVL with a history of weight loss. The ewe had received minerals and a bolus. On necropsy, the carcase, including the liver, was jaundiced. The kidneys were a 'gun metal black' colour. The urine was a dark, red, 'port wine' colour. Renal and hepatic copper concentrations were elevated. Copper toxicity was diagnosed.

Figure 17: **Jaundiced liver and 'gun metal black'-coloured kidneys in copper toxicity in a ewe. Photo: Aideen Kennedy.**

Pigs

Fibrinous pleuropneumonia and pericarditis

Two second-stage weaners (11 weeks old) were submitted to Dublin RVL. These pigs were found dead in the pens. There had been acute pneumonia cases in this group of animals, and sudden deaths. On gross post-mortem, the lungs were mottled dark in colour, wet, swollen, and haemorrhagic with a meaty consistency. There was bilateral, severe, diffuse, fibrinous pleurisy. The bronchial and mediastinal lymph nodes were diffusely enlarged. There was cranioventral consolidation of approximately 30 per cent to 40 per cent of the lung volume. There was also severe diffuse fibrinous pericarditis. The histopathology revealed severe, diffuse, necrotising, histiocytic bronchopneumonia with septal oedema and bacterial pleuritis. Upon culture, *Actinobacillus pleuropneumonia* was isolated from both lungs and detected on PCR.

Figure 18: **Lung displaying severe, diffuse, fibrinous pleuropneumonia, characteristic of disease caused by *Actinobacillus pleuropneumonia.* Photo: Sara Salgado.**