REGIONAL VETERINARY LABORATORIES REPORT

July 2026

Regional Veterinary Laboratories (RVLs) carried out necropsy examinations on 433 carcases and 31 foetuses during July 2026. Additionally, 1,277 diagnostic samples were tested to assist private veterinary practitioners (PVPs) 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 July 2026.
The objective of this report is to provide feedback to PVPs 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, enteritis, and blackleg were the most common diagnoses at necropsy in cattle in the RVLs during July 2026.

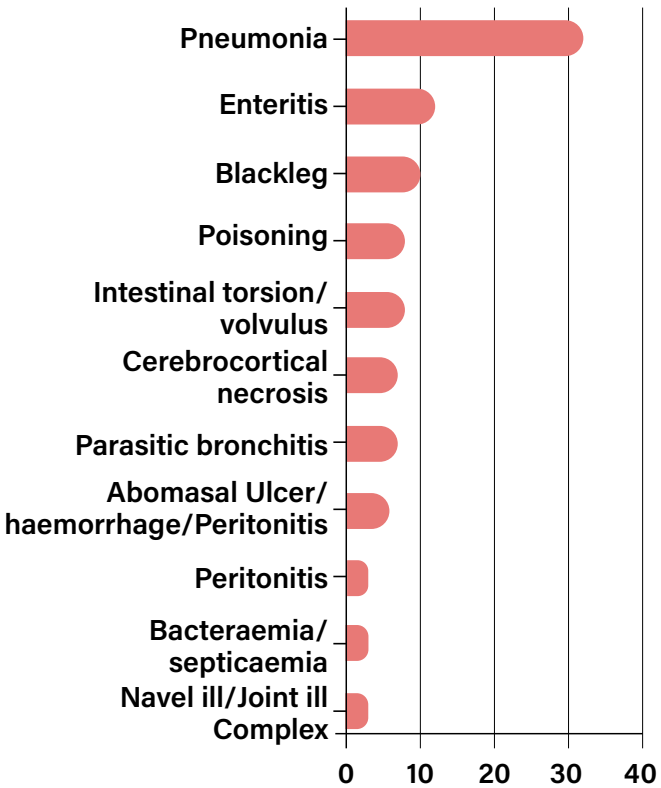


Table 1: **The most common diagnoses in cattle submitted for necropsy in July 2026.**

Gastrointestinal Tract

Omphalitis and abomasal ulceration in a calf

An eight-week-old Aberdeen Angus cross heifer calf was submitted to Limerick RVL with a history of ill-thrift following purchase; there was no response to antibiotic treatment. Post-mortem examination revealed an intra-abdominal abscess in remnants of umbilical vessels with a secondary peritonitis. Two non-perforated ulcers were present on the abomasal mucosa, the largest of which was 4-5cm in diameter. *Candida* sp. was cultured from the abomasal ulcers.

A diagnosis was made of peritonitis secondary to omphalophlebitis with concurrent, multifocal abomasal ulceration. The significance of the *Candida* sp. is uncertain although antimicrobial treatment is likely to have predisposed to an opportunistic fungal colonisation of the abomasal mucosa in a sick and weakened animal.

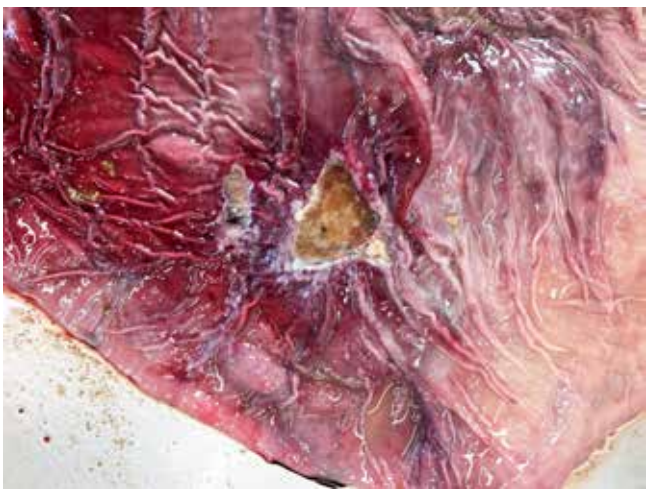


Figure 1: **Abomasal ulcers in the abomasum of an eight-week-old calf. Photo: Brian Toland.**



Figure 2: **Intra-abdominal umbilical abscess in an eight-week-old calf. Photo: Brian Toland.**

Perforated abomasal ulcer in a bull

A bull died suddenly and was submitted to Kilkenny RVL. Diffuse peritonitis associated with an abomasal ulcer was identified. The aetiology of abomasal ulceration in cattle is multifactorial and incompletely understood. Predisposing factors include dietary and physiological stress, negative energy balance, concurrent disease, and management changes, such as regrouping or mixing.



Figure 3: **Perforated abomasal ulcer in a bull. Photo: Aideen Kennedy.**

Johne's disease in an adult cow

Sligo RVL examined the carcase of a five-year-old cow which had presented with persistent, severe diarrhoea and progressive weight loss despite a good appetite. On post-mortem examination, internal fat stores were markedly depleted and caecal walls were severely thickened and congested. Histopathological examination of the caecum showed a marked granulomatous inflammatory infiltrate in the mucosa and submucosa consisting predominantly of epithelioid macrophages with moderate numbers of eosinophils and lymphocytes. The submucosa was expanded by a similar infiltrate with occasional multinucleated giant cells. The adjacent mesentery contained marked macrophage and lymphocyte infiltration and prominent perivascular fibrosis. Polymerase chain reaction (PCR) testing was positive for *Mycobacterium avium* subspecies *paratuberculosis* (MAP). The findings were consistent with Johne's disease.

Traumatic reticuloperitonitis

A two-year-old Aberdeen Angus cross bullock was found dead at pasture and was submitted to Limerick RVL for post-mortem examination. The abomasum was adhered to the ventral abdominal wall, and a 16cm length of wire was recovered. A large, thin-walled abscess involved the right caudal lung lobe, diaphragm, and liver.

The distribution of the lesions was strongly suggestive of migration of a penetrating metallic foreign body from the reticulum, with associated chronic suppurative inflammation and abscessation, consistent with traumatic reticuloperitonitis (hardware disease).

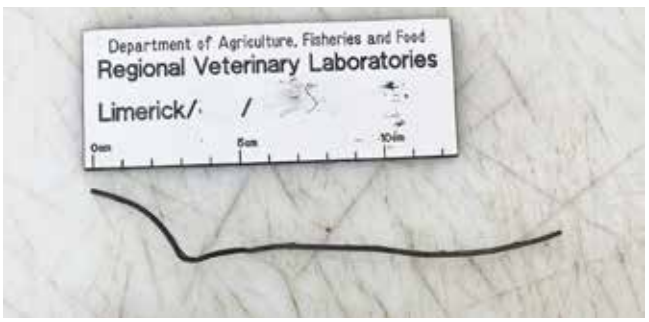


Figure 4: **A wire found during post-mortem in a case of hardware disease. Photo: Brian Toland.**



Figure 5: **Hardware disease leading to a lung abscess. Photo: Brian Toland.**

Respiratory Tract

Pneumonia and myocarditis in a calf

A three-month-old Limousin cross suckler calf was submitted to Limerick RVL. The calf showed no response to treatment for sudden onset pneumonia. Post-mortem examination revealed marked inflammation of the trachea and upper airways with marked congestion of the cranioventral lobes. Multifocal-to-coalescing, dark red, haemorrhagic areas were present within the epicardium and underlying myocardium. PCR testing of lungs and cardiac samples were positive for *Histophilus somni.*

H. somni is associated with a range of disease manifestation in cattle, including pneumonia, myocarditis, polyarthritis, and thrombotic meningoencephalitis. Cardiac involvement may result in acute clinical signs and sudden death. *H. somni* is fastidious and may be difficult to recover by routine bacterial culture, particularly following antimicrobial treatment; PCR testing is, therefore, useful in supporting the diagnosis.

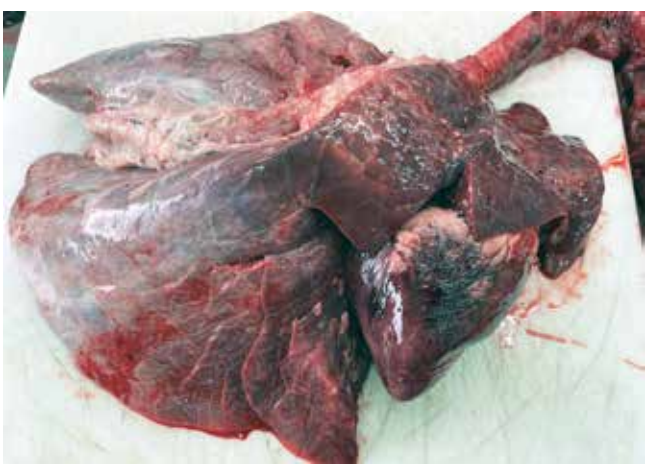


Figure 6: **Pneumonia and myocarditis due to *Histophilus somni*. Photo: Brian Toland.**

Parasitic bronchitis (hoose)

Athlone RVL examined a four-month-old Hereford cross male calf with a history of wheezing and panting and

failure to respond to treatment. This was the fourth similar loss within seven days. The group had been treated with albendazole three to four weeks previously. On post-mortem examination, there was marked bilateral, subpleural, interlobular pulmonary emphysema, predominantly affecting the middle and caudal lung lobes. A diagnosis of hoose pneumonia was made.

Albendazole is effective against susceptible adult and developing stages of *Dictyocaulus viviparus* present at the time of treatment but does not provide persistent protection. Cattle returned to contaminated pasture may become reinfected following treatment.



Figure 7: ***Dictyocaulus viviparus*** **or 'hoose' worms. Photo: Denise Murphy.**

Parasitic bronchitis was also diagnosed in young cattle submitted to Limerick and Kilkenny RVLs. A five-month-old dairy calf submitted to Limerick RVL with acute respiratory distress had severe pulmonary emphysema and numerous lungworms within the airways. In Kilkenny RVL, lungworms were identified in a five-month-old calf found dead at pasture; concurrent consolidation of the cranioventral lung lobes was present, with *Pasteurella multocida* isolated and *Mycoplasma bovis* detected by PCR.

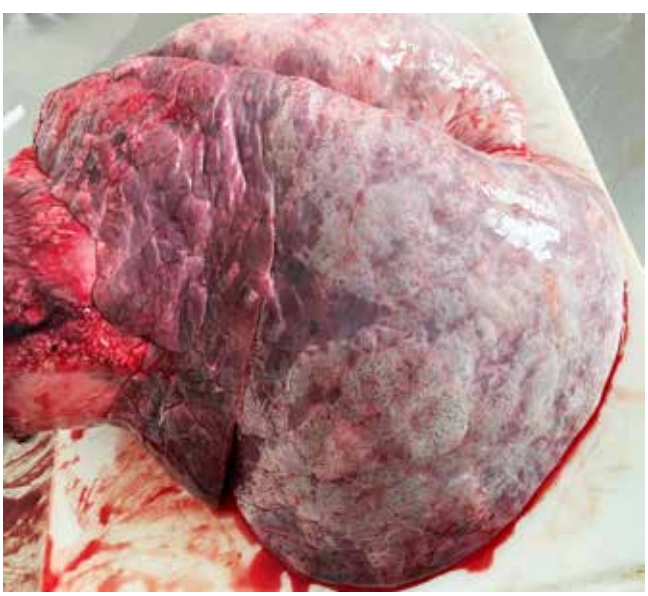


Figure 8: **'Ground glass' emphysema due to lungworm infection. Photo: Brian Toland.**



Figure 9: **Lungworm in an airway. Photo: Brian Toland.**



Figure 10: **'Ground glass' emphysema (arrow). Photo: Aideen Kennedy.**

Lungworm — parasitic bronchitis (hoose)

- Lungworm in cattle is caused by *Dictyocaulus viviparus* and primarily affects grazing cattle, particularly young or previously unexposed animals. Disease can occur in older cattle with inadequate acquired immunity and cattle who have had intensive anthelmintic control at their first grazing season, thereby limiting the development of protective immunity.
- Clinical signs include coughing, tachypnoea, reduced performance, and in severe cases, marked respiratory distress or death.
- Diagnosis can be made at post-mortem examination by demonstrating lungworms within the airways. In live animals, first-stage larvae can be detected in faeces using the Baermann technique; however, larvae may not be detected during the prepatent period. Bronchoalveolar lavage could also be considered.
- White drenches (benzimidazoles) are effective against susceptible lungworm stages present at the time of treatment but do not provide persistent protection against reinfection. Cattle may, therefore, become reinfected after returning to contaminated pasture.
- Yellow drenches (levamisole) are also effective against lungworm but have little or no persistent activity, so subsequent reinfection can occur.
- Macrocyclic lactones, including ivermectin, doramectin, eprinomectin, and moxidectin, are effective against lungworm. The duration of persistent activity varies considerably between active ingredients and formulations, so the product datasheet should be reviewed prior to treatment.
- Clinically affected animals should be treated promptly. Severely affected animals may require supportive therapy and can deteriorate despite treatment due to pre-existing pulmonary damage.
- Control incorporates appropriate anthelmintic use, grazing management, and vaccination where appropriate.

Chronic caseonecrotic pneumonia associated with *Mycoplasma bovis*

Limerick RVL examined a five-month-old Friesian cross bull calf. The calf was bought three months previously and had failed to thrive despite treatment. Post-mortem of the lungs revealed severe, fibrinous pleuritis and severe, chronic fibrinosuppurative, necrotising pneumonia involving the entire right lung and a large, focally extensive area of caseous necrosis in the left cranioventral lobe. PCR testing of the lung was positive for *Mycoplasma bovis.*



Figure 11: ***Mycoplasma bovis*** **pneumonia in a calf. Photo: Brian Toland.**

Mixed bacterial pneumonia in a weanling

A six-month-old weanling was euthanised and was submitted to Kilkenny RVL to investigate a pneumonia outbreak in a herd. On post-mortem examination, approximately 50 per cent of lung tissue was consolidated, with variably-sized foci of abscessation within the consolidated tissue. *P. multocida* and *Mycoplasma bovis* were detected in the lungs. The rumen contained a large quantity of undigested grain, and the contents were acidotic. A review of the diet and feeding management was advised. *Mycoplasma bovis* can cause pneumonia alone or as part of the bovine respiratory disease complex in association with other respiratory pathogens.



Figure 12: **Calf pneumonia due to *Mycoplasma bovis*. Photo: Aideen Kennedy.**

Laryngeal chondritis

A three-month-old calf was found dead and submitted to Kilkenny RVL. Post-mortem examination revealed bilateral laryngeal chondritis involving the arytenoid cartilage. Approximately 40 per cent of the lung was consolidated by fibrinous pneumonia, with expansion of the interlobular septa and pleura by fibrin. *Bibersteinia trehalosi* and *Trueperella pyogenes* were isolated from multiple organs consistent with a bacteraemia and septicaemia. *P. multocida* was also detected from the lungs. The distribution of the lesions was considered consistent with laryngeal chondritis with secondary bacterial pneumonia.



Figure 13: **Bovine laryngeal chondritis. Photo: Aideen Kennedy.**

Urinary/Reproductive Tract

Babesiosis

A 16-year-old, home-reared suckler cow was submitted to Limerick RVL, the animal was found weak and died shortly after. The findings at post-mortem included jaundice and a distended bladder containing dark, red-brown urine. PCR testing was positive for both *Babesia divergens*, and *Anaplasma phagocytophilum*, the causative agent of tick-borne fever (TBF). Findings are consistent with a diagnosis of babesiosis (redwater) with concurrent tick-borne fever (TBF). Both infections are transmitted by the same tick. *Ixodes ricinus,* and co-infection can occur in cattle grazing tick-infected pasture. Clinical babesiosis is generally more severe in susceptible adult cattle than young calves but is most severe in immunologically naive or immunosuppressed animals following exposure to a large number of infected ticks. Tick activity and risk of subsequent disease is greatly affected by local ecological and climate factors as well as the individual animal's immune status at time of exposure. The presence of concurrent TBF infection in this cow would have caused immunosuppression.



Figure 14: **'Redwater' in a suckler cow. Photo: Brian Toland.**

Haemorrhage due to ovarian artery rupture

A four-year-old cow was submitted to Sligo RVL. She had a caesarean section after dystocia due to a uterine torsion. At post-mortem examination, all caesarean sutures were intact and surgical site was unremarkable. The right ovarian artery was ruptured with extensive haemorrhage into the peritoneal cavity and right retroperitoneal space.

Death was attributed to haemorrhage due to rupture of the right ovarian artery. Given the history, the injury to the ovarian artery due to the uterine torsion was considered the likely cause.

Bovine abortion associated with *Ureaplasma diversum*

An embryo transfer suckler foetus was submitted to Dublin RVL with partial placenta. The crown-rump length indicated an estimated gestational age of 216 days in utero.

Gross post-mortem examination showed diffuse orange discolouration of the liver, multifocal petechial haemorrhages within the splenic capsule and epicardium, and marked meningeal congestion. The intercotyledonary area of the placenta was multifocally thickened and congested.

On histopathological examination, the placenta exhibited multifocal, suppurative intercotyledonary placentitis with thrombosis. The lung showed multifocal, suppurative bronchopneumonia, with squamous cells and meconium present within alveoli. Multifocal, perivascular, lymphocytic infiltrates were present within the heart.

No significant bacteria were isolated on routine culture. The routine bovine abortion package was performed and none of the usual causative agents were detected. Histopathology findings raised suspicions of the involvement of *Ureaplasma diversum. U. diversum* was detected on foetal tissue via PCR testing.

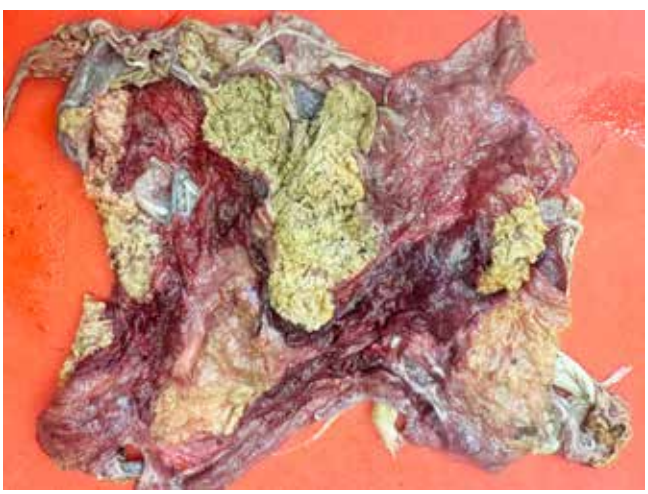


Figure 15: **Placenta with multifocal intercotyledonary thickening due to infection with *Ureaplasma diversum.* Photo: Sara Salgado.**

Nervous System

Cerebrocortical necrosis

A four-month-old Friesian heifer calf with neurological signs was euthanised and submitted to Limerick RVL. Post-mortem examination showed cerebral swelling, flattening of the gyri, and yellow discolouration of the cerebral cortex. There was autofluorescence under a Wood's lamp, which is suggestive of cerebrocortical necrosis (CCN) or Polioencephalomalacia. Histopathology confirmed CCN with multifocal laminar neuronal necrosis and rarefaction in cerebral sections examined.

CCN results from a disruption of thiamine availability or metabolism; a similar syndrome can occur with excessive dietary sulphur or lead intoxication.

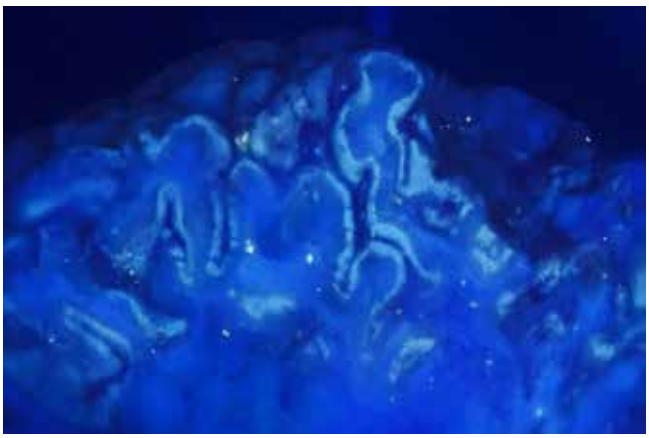


Figure 16: **Fluorescence under UV light of laminar necrosis in cerebrum of a calf with CCN. Photo: Brian Toland.**

Musculoskeletal

Blackleg

A six-month-old weanling with a history of acute respiratory distress followed by rapid death was submitted to Kilkenny RVL. On post-mortem examination, there were multifocal areas of necrotising myositis characterised by dry, dark red-to-black emphysematous skeletal muscle affecting the back muscles. A large, approximately 4cm-area of necrosis was present within the liver. Fluorescent antibody testing of the liver was negative but affected skeletal muscle was positive for *Clostridium chauvoei*, confirming blackleg. It was considered likely that the liver necrosis occurred due to infarction or toxaemia secondary to the myositis.

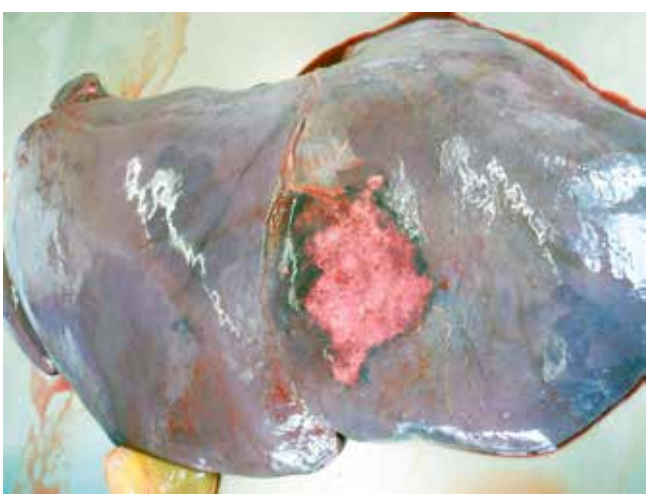


Figure 17: **Liver necrosis in a weanling animal where blackleg was also diagnosed. Photo: Aideen Kennedy.**

A five-month-old Charolais calf was submitted for post-mortem examination to Dublin RVL following acute depression and death. Examination of the cervical musculature revealed dry, dark red-to-black emphysematous areas of skeletal muscle necrosis and myositis. FAT testing of the muscle confirmed *C. chauvoei.* A diagnosis of clostridial myositis/blackleg was made. The herd had not been vaccinated against clostridial disease. Vaccination of the remaining herd was advised.



Figure 18: **Dark, dry, emphysematous blackleg lesion in the muscle of a five-month-old Charolais calf. Photo: Colm Brady.**

Vertebral osteomyelitis in a cow

A three-year-old cow was submitted to Kilkenny RVL following a ten-day history of progressive weakness. The cow had remained eating but became recumbent. On dissection of the vertebral column, a suppurative osteomyelitis was seen and was compressing the adjacent spinal canal and cord. The source of the infection was not apparent. Spinal abscesses are typically sporadic and embolic spread from nearby or distant infectious foci is possible.

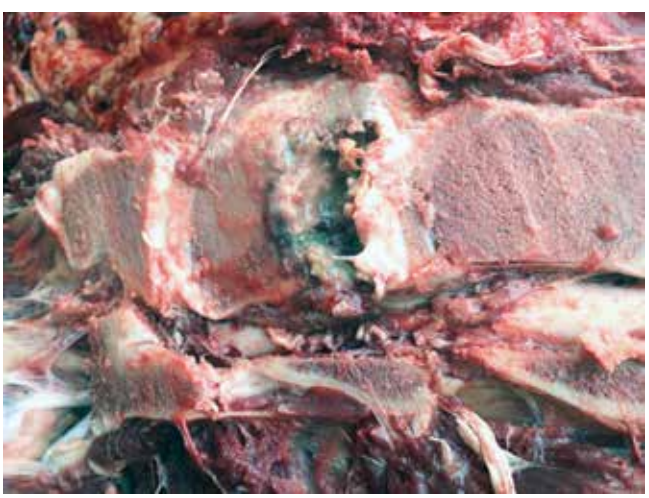


Figure 19: **Vertebral osteomyelitis compressing the spinal cord of a cow. Photo: Maresa Sheehan.**

Miscellaneous

Dicephalus in a neonatal calf

Sligo RVL received a neonatal calf carcase which had died following dystocia. The calf had two heads, which were joined at the level of the caudal mandible. In addition to this, both heads had cleft palates. This deformity is believed to arise from the partial division of an embryo (incomplete separation of identical twins).



Figure 20: **Conjoined bovine twins. Photo: Mícheál Casey.**

Sheep

Parasitic gastroenteritis and bacteraemia/septicaemia were the most common diagnoses at necropsy in sheep in the RVLs during July 2026.

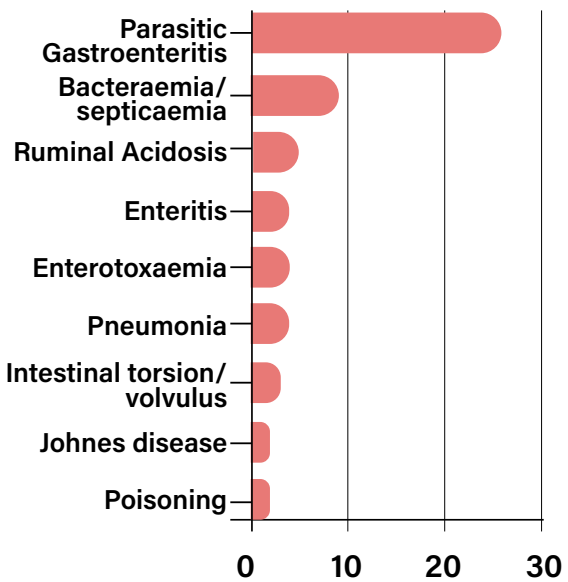


Table 2: **The most common diagnoses in sheep submitted for necropsy in July 2026.**

Gastrointestinal Tract

Haemonchosis

Athlone RVL examined a two-year-old ewe with a history of having been sick for 24 hours prior to death; it had been slow to move, weak, and had a swelling under the jaw. It was the third loss in two weeks. On post-mortem examination, the conjunctivae were white and the carcase was very pale; there were pale lungs and white gastrointestinal tract (GIT) serosa with oedema on the surface of the forestomachs and in submandibular tissues. The intestinal contents and faeces were very watery. 'Barber pole' worms were seen in the abomasal contents and, following micropscopic examination, these were confirmed to be *Haemonchus contortus* worms. A faecal egg count of 12,400 eggs per gram (EPG) was detected in the faeces. A diagnosis of haemonchosis was made.



Figure 21: **White conjunctiva in a ewe infected with *Haemonchus contortus*. Photo: Denise Murphy.**

Haemonchus contortus

Key points include:

1. Female worms lay lots of eggs, which develop rapidly under optimal conditions.
2. Relatively low numbers of worms can cause disease as it is highly pathogenic.
3. Diarrhoea is not a typical feature. Anaemia, bottle-jaw, and poor thrive are key clinical signs.
4. Adult animals develop little immunity meaning adults are at risk of developing disease.
5. Control/prevention relies on regular faecal egg counts, pasture management, and strategic anthelmintic use.



Figure 22: ***Haemonchus contortus*, the 'barber's pole' appearance can be seen in the larger worms. Photo: Denise Murphy.**

Haemonchosis and abomasal coccidiosis

An 18-month-old hogget in poor body condition was brought in for necropsy at Dublin RVL. It represented the third death in similar animals, and had severe, diffuse pallor of the mucosa, skeletal muscles, abdominal and thoracic organs, and brain; it also had severe, diffuse visceral fat atrophy. A large number of *H. contortus* nematodes were seen within the abomasal lumen and there was moderate abomasal oedema. Histologically, besides the lymphocytic abomasitis, a single section of *Eimeria gilruthi* macromeront was seen in the abomasal mucosa. In this case, the *E. gilruthi* was interpreted as an incidental finding and clinically not significant.

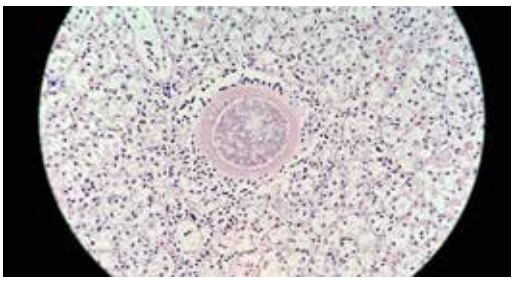


Figure 23: **A macromeront life stage of *Eimeria gilruthi*. Photo: Sebastian Mignacca.**

Abomasal coccidiosis

Eimeria gilruthi is a poorly characterised coccidian parasite of the abomasum of sheep and goats. Infection is often reported as an incidental histological finding and its pathogenic significance remains uncertain. However, clinically significant abomasitis has occasionally been associated with diarrhoea, weight loss, and poor condition, including in adult animals. Gross lesions may include mucosal thickening, oedema, hemorrhage, and raised nodules. Diagnosis is primarily histological, based on the presence of large intralesional shizonts within the abomasal mucosa. The significance of infection should be interpreted in conjunction with lesion severity and after consideration of other causes of ill-thrift and diarrhoea.

Respiratory Tract

Pasteurellosis

Athlone RVL examined a four-month-old lamb with a history of sudden and unexpected death. The body condition was good, weight 30kg. There was a severe, diffuse, fibrinous pericarditis, pleurisy, pneumonia, and mild splenic enlargement. *Mannheimia haemolytica* was isolated from the lungs and was detected by PCR along with *B. trehalosi*. A strongyle egg count of 2,700EPG was detected in faeces. A PCR test for tick-borne fever (TBF) was negative. A conclusion of pericarditis, pleuritis, and pneumonia due to pasteurellosis was made.

Pasteurellosis in sheep can cause acute pneumonia or septicaemia (systemic pasteurellosis) especially among weaned lambs. Stresses associated with systemic pasteurellosis include weaning, handling, transport, mixing, dietary changes, and inclement weather. It is not uncommon to find that lambs which have died of pasteurellosis also have other conditions that may be contributing to their stress; these include worm burdens, fluke burdens, TBF, and selenium and/or cobalt deficiency.



Figure 24: **Pericarditis, pleuritis, and pneumonia due to pasteurellosis. Photo: Denise Murphy.**

Urinary/Reproductive Tract

Mastitis and embolic pneumonia

A two-year-old ewe in poor preservation was submitted to Kilkenny RVL for necropsy. The ewe had struggled to get up and eventually was found dead. On necropsy, the left half udder was diffusely moderately distended and hard, with multifocal-to-coalescing moderately sized (up to 1cm in diameter) abscesses surrounded by necro-haemorrhagic rims, on cross section. The lungs were heavy and congested, with multifocal, small, subpleural, firm nodules within the caudal lobes. Lesions were confirmed on histopathology as abscesses containing intralesional bacterial clusters. *Streptococcus uberis* and *Staphylococcus aureus* were cultured from affected organs. Additionally, *P. multocida* was detected by PCR in the lung. The final diagnosis was a severe, suppurative mastitis with suppurative emboli in the lungs, likely originating from the udder.



Figure 25: **Mastitis due to *Streptococcus uberis*. Photo: Sebastian Mignacca.**

Goats

Clostridial enterotoxaemia

Limerick RVL examined a nanny goat found dead at pasture with no history of vaccination. Necropsy revealed a rumen filled with grain and a pH of 4.1 indicating acidosis (normal rumen pH is between 5.5 and 7.0). *Clostridium perfringens* alpha and epsilon toxins were detected in the intestinal contents consistent with Type D enterotoxaemia. Acute ruminal acidosis can trigger proliferation of *C. perfringens*; it is commonly known as overeating disease or Pulpy Kidney Disease. A review of diet and vaccination protocols was advised with the use of a multivalent clostridial vaccine recommended.



Figure 26: **Rumen contents with low pH in a goat also suffering from clostridial enterotoxaemia. Photo: Brian Toland.**

Pigs

Polyserositis in weaners

Sudden deaths were reported in first stage weaners on a pig unit, and five affected weaners were submitted to Dublin RVL. Gross post-mortem findings in the pigs were similar, with widespread fibrinous serositis characterised by wet fibrinous exudate and adhesions involving the thoracic and peritoneal cavities. The pericardium contained voluminous wet fibrinous exudate. *Streptococcus suis* was isolated from multiple organs across the pigs. *S. suis* may be carried by pigs in the tonsil without apparent clinical signs. Meningitis, polyserositis, or arthritis are the most common manifestations of this infection; young pigs at the time of weaning are particularly susceptible.

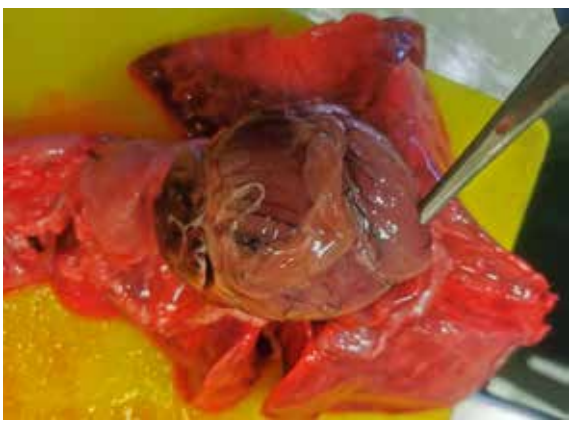


Figure 27: **Acute fibrinous pericarditis in a first stage weaner pig. Photo: Colm Brady.**

Poultry

Coelomitis in a layer flock

Three layer hens were submitted to Dublin RVL from a layer flock of 500. The three layers were found dead. History indicated that there was a hen-pecking problem in the flock and a finding of patchy feather loss and erythema in the hens was supportive of this. In all three, opening of the coelomic cavity revealed yellow, coloured inspissated exudate attaching to serosal surfaces to the extent that loops of intestine and viscera were matted together. Oviducts contained fragments of albuminous, caseous material. Pure growths of *Escherichia coli* were identified on bacterial culture of tissue samples from the three hens. Findings are consistent with *E. coli*-associated egg coelomitis.
In addition, *Capillaria* spp. eggs were present in faeces from all three. *Capillaria* spp. are nematode worms which infest the gastrointestinal tract in birds causing ill-thrift.

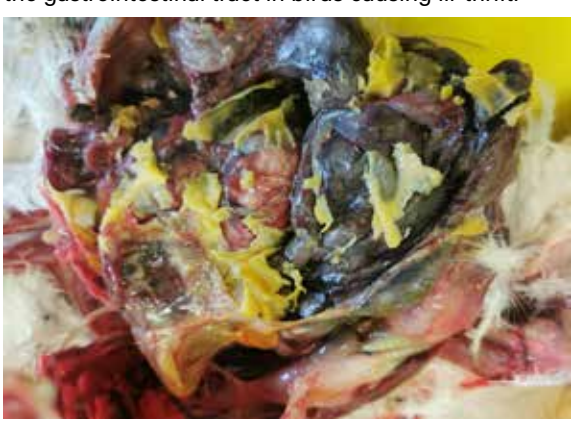


Figure 28: **Egg coelomitis in a layer hen. Photo: Colm Brady.**