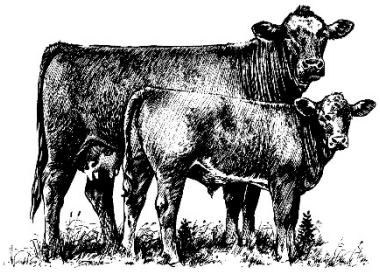
Animal & Plant Health Agency



SRUC

GB cattle quarterly report

Disease surveillance and emerging threats

Volume 28: Quarter 1 (January to March) 2024

Highlights

- **Bluetongue virus update – page 3**
- **Schmallenberg virus update – page 4**
- **Traumatic reticulitis and pericarditis – page 7**
- **Jejunal haemorrhage syndrome in dairy cows – page 9**

Contents

Introduction and overview 1

New and re-emerging diseases and threats 3

Changes in disease patterns and unusual diagnoses 8

Centre of Expertise for Extensively Managed Livestock 18

Chemical food safety 18

Horizon scanning 19

Publications of interest 20

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Introduction and overview

This quarterly report reviews disease trends and disease threats for the first quarter of 2024 (Quarter 1), January to March. It contains analyses carried out on disease data gathered from APHA, SRUC Veterinary Services division of Scotland's Rural College (SRUC) and partner postmortem providers; and intelligence gathered through the Cattle Expert Group networks. In addition, links to other sources of information, including reports from other parts of the APHA and Defra agencies, are included. A full explanation of how data is analysed is provided in the annexe available on GOV.UK.

Dairy update

- **Prices:** UK farmgate milk prices averaged 37.42 pence per litre (ppl) in March, which was down 0.51ppl (1.3%) from where they ended the last quarter in December. Prices fluctuated over the last quarter, with a tentative feel to the markets ahead of the spring flush. Movements in wholesale prices for dairy products were similar, with buyers and sellers holding out to see where milk production peaks.
- Production: March saw the end of the 2023 to 2024 season with milk deliveries at a seven year low, driven by lower yields per cow. We estimate that 3,749 million litres of milk were produced in the UK between January and March this year, bringing total production for the 2023 to 2024 milk season to 12.32 billion litres (365-day equivalent), a decline of 0.5% (63.60 million litres) on the previous year. Producers continued to struggle with the wet and cold weather in Q1, delaying turnout onto grass and limiting production.
- **Trade:** year-to-date (YTD) (January to February) volumes of dairy exports from the UK totalled 225,000 tonnes, a 5.1% increase compared to the same period of the previous year. These exports totalled £279 million. Import volumes for the same period have been lower year on year, at 180,000 tonnes.
- **Demand:** during the 52 weeks ending 23 March 2024, volumes of cow's dairy sold in retail declined by 1.5% year-on-year but spend increased by 6.4% as inflation caused rises in average prices paid by 8.1% (Copyright © 2024 Nielsen Consumer LLC. All Rights Reserved). According to the Kantar Usage, in 2023 more than a third of our meals featured dairy as an ingredient, making it a popular choice amongst consumers (Kantar Usage 52 w/e 26th November 2023). Dairy within all meal occasions remained steady during 2023 and across each category (butter, cheese, milk, cream and yoghurt).

Beef update

- **Prices:** GB deadweight prime prices grew throughout January and February, before seeing declines through March to end very close to where the quarter began, at 487.7p/kg. Cull cow prices have risen throughout the first quarter of 2024 by 36p/kg from the first week of the year to 353p/kg for the week ending 30 March.
- **Production:** UK beef production totalled 75,700 tonnes in March, down 4% year-on-year, with fewer working days compared to 2023. January and February

production levels were elevated on 2023, with 1 extra working day per month. Prime cattle slaughter remained steady from February to March, having fallen from January's levels. Prime carcase weights have declined month on month to 344.7kg in March.

- **Trade:** in terms of UK beef trade, imports of fresh & frozen beef totalled 19,700 tonnes in February, up 21% year on year (YOY). Export volumes sat at 9,000 tonnes for the month, up 3% YOY. UK exports have seen growth despite their high price point on the continent and weaker EU demand. For the YTD (Jan-Feb) beef imports stood at 43,600 tonnes (+28% YOY), while exports totalled 17,900 tonnes (+4% YOY).
- **Demand:** in the 12 weeks to 17 March, spend on beef in retail was up 5.5% YOY, while volumes were down by 1.4%. Average prices paid were up 7.1% across all beef products. Steaks saw volume increase, as Valentine's Day fell across this period, driving demand. However, this performance was not enough to counteract the declines seen for other primary cuts.

Acknowledgment for the dairy and beef updates: Freya Shuttleworth, AHDB

Cattle disease surveillance dashboard outputs

The most frequent diagnoses from carcase submissions made in the first quarter (Q1) of 2024, compared to Q1 in 2023, and Q1 for 2015 to 2024 inclusive, through the Great Britain (England, Wales, and Scotland) scanning surveillance network, are illustrated in Table 1. These can be interrogated further using the interactive cattle disease surveillance dashboard which was launched in October 2017.

Table 1: Great Britain scanning surveillance 10 most frequent carcase submission diagnoses in Q1 of 2024, Q1 of 2023, and Q1 for 2015-2024

10 most frequent carcase diagnoses Q1 2024	10 most frequent carcase diagnoses Q1 2023	10 most frequent carcase diagnoses Q1 2015-2024
1. Pneumonia due to *Mycoplasma bovis*	1. Pneumonia due to *Mycoplasma bovis*	1. Pneumonia due to *Mycoplasma bovis*
2. Pneumonia due to *Pasteurella multocida*	2. Pneumonia due to *Pasteurella multocida*	2. Cryptosporidiosis
3. Pneumonia due to *Mannheimia haemolytica*	3. Pneumonia due to *Mannheimia haemolytica*	3. Respiratory – other cause (not listed)
4. Cryptosporidiosis	4. Cryptosporidiosis	4. Pneumonia due to *Mannheimia haemolytica*
5. Pneumonia due to BRSV	5. Hypogammaglobulinaemia	5. Pneumonia due to *Pasteurella multocida*

6. Pneumonia due to *Histophilus somni*	6. Rotaviral enteritis	6. Hypogammaglobulinaemia
7. Rotaviral enteritis	7. Colisepticaemia	7. Digestive disease due to other causes (not listed)
8. Colisepticaemia	8. Pneumonia due to BRSV	8. Pneumonia due to BRSV
9. Respiratory – other cause (not listed)	9. Respiratory – other cause (not listed)	9. Rotaviral enteritis
10. Navel ill +/- joint ill	10. Digestive disease due to other causes (not listed)	10. Colisepticaemia

New and re-emerging diseases and threats

Bluetongue serotype 3 (BTV-3) update

In September 2023, an outbreak of bluetongue virus type 3 (BTV-3) started in the Netherlands. Since then, BTV-3 positive animals have also been detected across Europe in Belgium, Germany, and England. An unrelated BTV-3 strain also caused clinical cases in Italy. The first case in England was detected in November 2023 in Kent, in a bovine that was tested as part of the annual BTV survey. A temporary control zone was put in place and a large volume of surveillance blood testing was undertaken. By the end of May 2024, this had led to 86 investigations in total, with 119 positive cattle and 7 sheep detected, distributed across 73 locations in the counties of Norfolk, Kent, Suffolk, and Surrey.

The 119 positive cattle were detected due to surveillance sampling and did not have clinical signs. In contrast, reports from the Netherlands have described mortality and morbidity, particularly in sheep, but also in cattle. In some sheep flocks, up to 30% were affected with case fatality rates of up to 70%.

BTV-8 is currently circulating in France. Find the assessment of the risk to Great Britain from BTV-3 and BTV-8.

There are 29 serotypes of bluetongue virus worldwide, but unfortunately there is no cross protection between different serotypes. Bluetongue can affect all ruminant and camelid species. The clinical signs are most severe in sheep, followed by cattle. There is currently no vaccine approved for use in the UK for BTV-3, and other options for preventive measures are limited. The virus is transmitted by *Culicoides* midges, and this makes both prevention and control challenging. The transmission of BTV is temperature dependent, influencing the activity of the midges, and the viral replication within the midges. The virus is unlikely to replicate in the midge at temperatures below 15^0C. A single midge bite can be sufficient to infect an animal.

The clinical signs result from viral replication and the damage caused to blood vessel and lymphatic vessel endothelium. The endothelial damage results in haemorrhage, ischaemia, inflammation, and oedema. Lesions are commonly seen in those areas that are subject to mechanical damage and abrasion, such as the muzzle, the eyes, the coronary band, and the teats.

If clinical signs suggestive of bluetongue are seen, the case must be reported to the Animal and Plant Health Agency (APHA) on:

- 03000 200 301 in England
- 0300 303 8268 in Wales
- Via the local Field Service Office in Scotland

Further guidance and information are available on Bluetongue Virus - Ruminant Health & Welfare, and Bluetongue: how to spot and report it.

Schmallenberg disease

Schmallenberg virus (SBV) infection was first identified in the UK in 2012, after reports during 2011 in northern Europe of pyrexia, milk drop and diarrhoea in dairy cows, which were followed by the birth of lambs, and later calves, with congenital deformities. In the subsequent three years there were fewer or no cases, with a further spate of similar disease in 2016/7. Since then, SBV has shown three-to-five-year cycles of re-emergence of infection causing disease.

In autumn 2023 there were reports of seropositive animals, some with rising titres, and antibodies to SBV in bulk milk samples. This was followed by lambs being born with congenital deformities typical of SBV. Since then, 220 cases (up to end of March 2024) of SBV infection had been confirmed by PCR testing in England and Wales, with one also in southwest Scotland; this comprised nine in calves, two in goat kids, and the remainder in lambs.

Affected animals have been aborted, stillborn, or delivered alive and required euthanasia. The most consistent lesions associated with SBV are arthrogryposis, usually affecting all 4 limbs, with variable numbers of animals also exhibiting scoliosis (Fig 1), lordosis, brachygnathia inferior (undershot lower jaw) (Fig 2) and skull deformities. The brains range from grossly normal to those with cavitating lesions (hydranencephaly and/or porencephaly), and in most there are varying degrees of reduced spinal cord development (micromyelia). These gross pathological lesions are associated with SBV infection occurring in early pregnancy, between 28 and 60 days of gestation in sheep and 80 to 150 days of gestation in cattle.

As bluetongue virus can also cause similar brain lesions of hydranencephaly and porencephaly, such cases should be reported to the APHA Field Service to consider notifiable disease investigation; APHA can be contacted on 03000 200301 in England and 0300 3038268 in Wales. Free sampling for SBV infection has been offered by APHA in 2024, details of which can be found in this SBV guidance document

(http://apha.defra.gov.uk/documents/surveillance/diseases/guidance-schmallenberg-virus.pdf) on the cattle surveillance page APHA Vet Gateway - Cattle disease surveillance (defra.gov.uk) Surveillance information is requested with the samples, to include description of the animals' deformities, whether they were aborted or born to term, details of pregnancy rates in cattle and sheep, and information on whether affected dams were homebred or purchased within the last 12 months. It is recommended to collect fresh brain stem for SBV PCR, foetal fluid for SBV antibody ELISA (if the PCR is negative), and if no foetus available, maternal clotted blood samples for serology. If the brainstem of foetuses cannot be collected, an alternative sample for PCR is scraping placental fluid from the carcase/fetal skin surface and navel.

It is suspected that the impact of SBV infection has been significant on many farms, with reports of increased barren rates in cows and ewes, and the loss of fetuses with congenital disease. Some ewes have delivered a combination of affected and unaffected lambs in the same litter. Mapping the SBV cases, those which have been confirmed by PCR testing, shows a strong westerly focus for those identified in 2024 (Figure 3), compared with cases recorded in the two previous years (Figure 4). The explanation for this is uncertain, suggesting an uneven virus distribution and/or naivety of sheep flocks in affected regions. Practitioners are encouraged to discuss cases with Veterinary Investigation Officers.

Figure 1: Scoliosis in a lamb with SBV

Figure 2: Brachygnathia inferior in a lamb with SBV

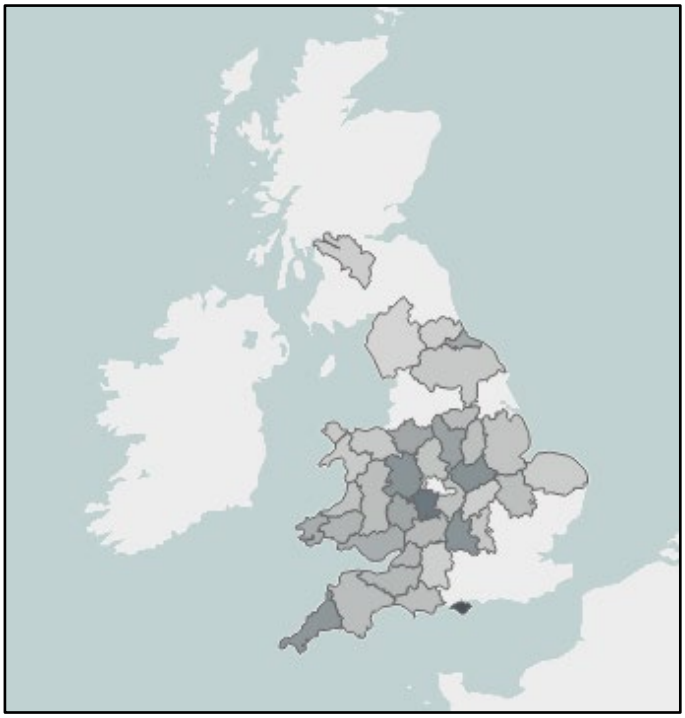

Figure 3: Geographic distribution of SBV cases from 1.1.24 to 25.3.24

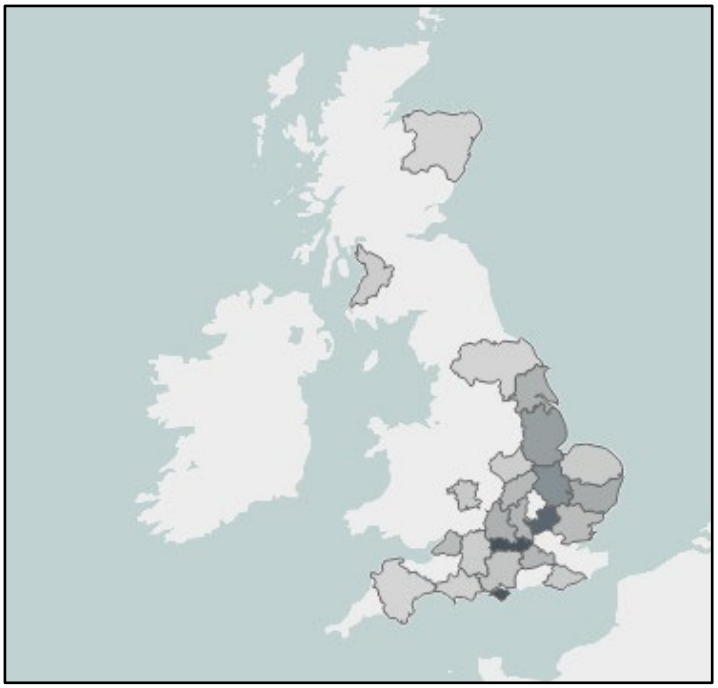

Figure 4: Geographic distribution of SBV cases from 1.1.21 to 31.12.23

Traumatic reticulitis and pericarditis

Traumatic reticulitis continues to be identified postmortem, and for many the cause is identified as the ingestion of tyre wires. In England and Wales, a total of 118 diagnoses was made in the last 10 years, with 5 cases having already been recorded in 2024.

Three diagnoses were recently made at Shrewsbury Veterinary Investigation Centre in adult dairy cows from 3 separate dairy herds. The first 2 were lactating and showed reduction in milk production before they became recumbent and died. Both had necrotising inflammation of the pericardial sac (Figure 5), and in one there was an adjacent large abscess adhesed to the thoracic wall, within which was a 7cm piece of wire. One other cow had died in the herd 2 weeks previously. The second also had an enlarged liver with adhesions to the reticulum and right abdominal wall, and the pericardium was also adhesed to the epicardium, adjacent lung lobes and thoracic wall. Six cows had died in the herd of 335 cows in the last 2 months. The third case was in a herd where traumatic reticulitis was diagnosed in another cow in February 2023, and following this, magnets were administered. A large thick-walled abscess was present between the reticulum and liver.

The reticulum is the site of most traumatic lesions of the alimentary tract, as this is where foreign bodies are deposited once swallowed. Reticulitis, pericarditis, and peritonitis can occur as sequelae if there is penetration through the reticulum wall. Broken wires (from rotting vehicle tyres used to weight silage clamp covers, or from fencing) were reported to be most common foreign body associated with these lesions in a slaughterhouse survey (Cramers and others 2005). Nails and screws can similarly penetrate the wall of the reticulum, in addition to other metallic objects including broken mixer wagon parts (Daniel and Smith 2008), and metallic fragments attached to magnets (Orpin 2007).

When alimentary tract lesions are identified caused by tyre wires it is essential to assess all tyres used to weight silage sheets on the farm, and any tyres which are disintegrating should be disposed of at a waste recycling centre. Because of the risk of wires, ideally tyres should not be used, and an alternative means of weighting, such as straw bales or gravel bags, adopted. On farms where the disease is identified, the use of magnetic boluses for cows, and installation of magnets in the mixer wagon, may also be considered.

References

Cramers T, Mikkelsen KB, Andersen P, Enevoldsen C, Jensen HE. New type of foreign bodies and the effects of magnets in traumatic reticulitis in cows. *Vet Rec* 2005;157:287-9

Daniel R, Smith G. Suspected reticuloperitonitis associated with the metal components of a mixer wagon. *Vet Rec* 2008; 162:563-4

Orpin P. Traumatic reticuloperitonitis in cows. *Vet Rec* 2007; 160:811

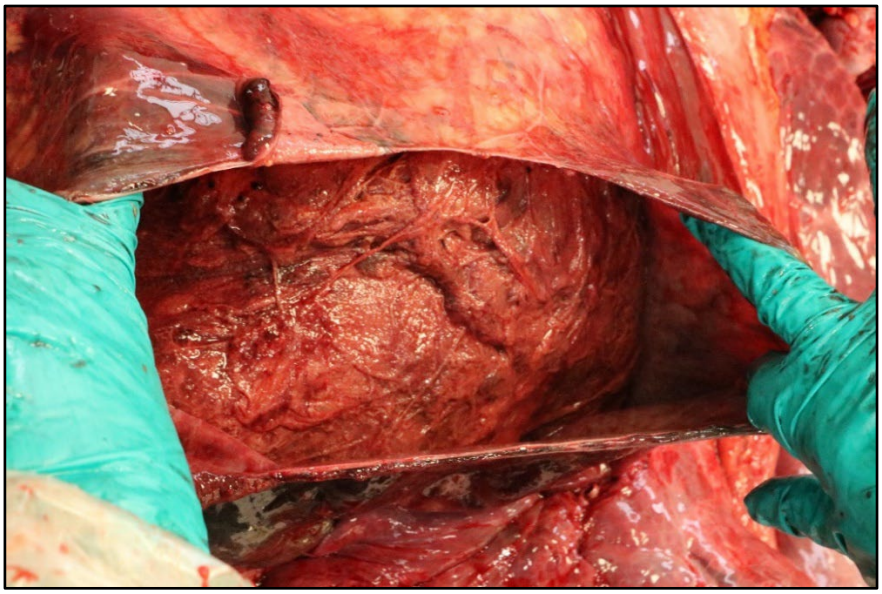

Figure 5: Necrotising inflammation of the epicardium visible after incision of the pericardium

Changes in disease patterns and unusual diagnoses

Systemic disease

Salmonellosis due to *Salmonella* Typhimurium DT75 in a dairy cow

An advisory visit (ZO4) was arranged under the Zoonoses Order 1989 following the isolation of *Salmonella* Typhimurium DT75 from a dairy cow that had aborted during January 2024. The isolate was sensitive to all antimicrobials on the antimicrobial resistance (AMR) profile. Full single nucleotide polymorphism (SNP) typing had been carried out on the isolate. There was one cow affected out of a group of 150 milking cows, dry cows, and in-calf heifers. The affected cow was seven months in calf and was in the

process of drying up. The cow aborted and quickly lost condition. The cow also had watery diarrhoea for three days. When examined by the private veterinary surgeon, the cow was found to have a retained placenta. The cow was treated with combined trimethoprim and sulfadiazine and then improved. The cow became clinically well and was then eating normally. The milk supplier was informed of the *Salmonella* diagnosis, but no milk went into the bulk tank from the cow following the abortion. There had been human illness on the farm as the farm owner was ill with gastrointestinal signs for four to five days at the beginning of December. No human testing was undertaken, and the owner recovered fully without treatment. No definitive link was made between the incident of human illness and the *Salmonella* infection in this cow. Advice was given regarding biosecurity, cleaning and disinfection of high-risk areas, preventing contamination of feed stores by vermin and wild birds, and ways to reduce the risk of on farm spread. The farmer was reminded of his obligation to protect the food chain, including appropriate completion of food chain information (FCI) if animals were sent to slaughter, and informing the milk buyer. The zoonotic potential of *Salmonella* infection was reiterated.

The 2022 edition of the *Salmonella* in animals and feed in Great Britain (previously called *Salmonella* in Livestock Production in GB) has been published and is now available here: Salmonella in animals and feed in Great Britain - GOV.UK (www.gov.uk)

Digestive system disease

Jejunal haemorrhage syndrome in two dairy cows from different herds

Both Bury St Edmunds and Shrewsbury Veterinary Investigation Centres (VICs) reported diagnoses of jejunal haemorrhage syndrome (JHS) during this quarter. This fatal condition has increasingly been diagnosed in the last 10 years. There were 39 cows with JHS examined postmortem in English and Welsh VICs and by partner providers over the last 5 years from 2019to 2023, compared with a total of 26 in the preceding 5 years from 2014 to 2018 (VIDA 2024).

The two animals examined postmortem were mature cows, one in its third lactation and had calved 42 days previously, the other was in mid-lactation of its fourth lactation. The first cow, in a herd of 600, exhibited a rapid decline in rumination and became recumbent. Although she was lifted and walked into a straw bedded pen, she died a couple of hours later. The second cow had a three-day history of malaise and recumbency and, had been observed passing dark faeces. Two other cows had died in similar circumstances in the previous two months, in the herd of 360 milkers. There were similar pathological features in the two animals. The abomasum, duodenum, and proximal half of the jejunum were swollen and reddened, with gas and liquid content. Part of the lower jejunum was distended and dark grey to purple and, contained an elongated blood clot (Figure 6). There were scant bloody contents distal to this point within the intestinal tract. These findings are consistent with JHS.

The vast majority of diagnoses of JHS have been made in dairy cows, however, it has also been identified in VICs in a few suckler cows, and in two stock bulls in dairy herds. An

evaluation in California of 314 cases examined over a 16-year period concluded that there was no association with infectious disease, including clostridial enterotoxaemia which was initially suspected to be the cause (Adaska and others 2014). Detailed histopathological examinations of the jejunum from affected cows identified that the lesion was due to ‘splitting’ of the muscularis mucosa and formation of an intramural haematoma, associated with vasculitis in the mesenteric and intestinal wall vessels. This is considered to interfere with the intestinal blood supply resulting in fatal intestinal haemorrhage. Although the specific cause of JHS has not been ascertained, an association with poor quality feed is suspected, and avoiding feeding spoilt forage or straights is recommended.

Figure 6: Blood clot within distended portion of jejunum

Reference

Adaska JM, Aly SS, Moeller RB, Blanchard PC, Anderson M, Kinde H, Uzal F. Jejunal hematoma in cattle: a retrospective case analysis. Journal of Veterinary Diagnostic Investigation 2014;26:96-103

Cryptosporidiosis and colisepticaemia in a pre-weaned calf

Cryptosporidiosis and colisepticaemia were both in the Top 10 carcase diagnoses for this quarter. A two and a half-week-old dairy-cross calf was first noted unwell approximately one week prior to submission, when it went off milk, was still bright initially but lost suck reflex, started to scour and became weak. There had been approximately 10 calves in this herd with similar clinical signs in the first quarter of 2024. The submitted calf had been stomach tubed for five to six days, with 6 litres of milk replacer over two feeds, mixed with a rehydration gel, and tubed with 3 litres water mixed with rehydration gel in between milk feeds.

The significant postmortem examination (PME) findings included dehydration, poorly healed navel, redden ruminal mucosa, the abomasum contained a large volume of watery grey liquid and the mucosal folds were purple and oedematous, and the brain was very reddened with engorged meningeal blood vessels. *Cryptosporidium sp.* were detected in large intestinal contents and is likely to have contributed to diarrhoea in this calf. Histopathology demonstrated a ruminitis, likely due to ruminal drinking. There were several management risk factors to consider which included poor intubation technique, low quality milk replacer, incorrect concentration of the replacer, and incorrect temperature of the milk. Bacteriology isolated *E. coli* from liver and lung in very heavy pure growth. Colisepticaemia in neonates usually results from reduced transfer or absorption of maternal antibodies via colostrum, or from intercurrent disease or debilitation. A review of the feeding management of calves, including colostrum management, and treatment of navels was recommended.

Cryptosporidiosis and persistent BVD Type 1 infection in a calf

Cryptosporidiosis and persistent BVD Type 1 infection were diagnosed in a three-week-old heifer calf submitted for PME. The calf was from a 260-cow dairy herd which had a vaccination programme for BVD in place, although ‘tag and test’ was not used. At PME the calf was found to be markedly dehydrated with evidence of severe enteritis. Screening for enteric pathogens identified cryptosporidium, and BVD Type 1 virus was also found. Subsequent immunohistochemistry (IHC) examination confirmed the calf to be persistently infected. An immediate review of the BVD control programme was instigated, and the farm has signed up to the Animal Health and Welfare Pathway to support this.

Respiratory system

The first quarter of the year was dominated by cold, wet weather, which predisposes cattle to respiratory disease, particularly in northern areas. Respiratory disease diagnoses accounted for five of the six most common carcase diagnoses in Q1 2024. In Quarter 1 (Q1) of 2024, we have seen an increase in diagnoses of respiratory disease in post-weaned beef cattle in Scotland. As reported for Q1 of 2023, Scotland has continued to see a rising trend in the percentage of diagnosable submissions where BRSV was detected (Figure 7). However, for this quarter, we have also observed a notable increase in percentage of diagnosable submissions where bacterial pathogens have been detected, particularly when it comes to *Pasteurella multocida (*Figure 8*), Mannheimia haemolytica,* (Figure 9) *and Histophilus somni* (Figure 10*).*

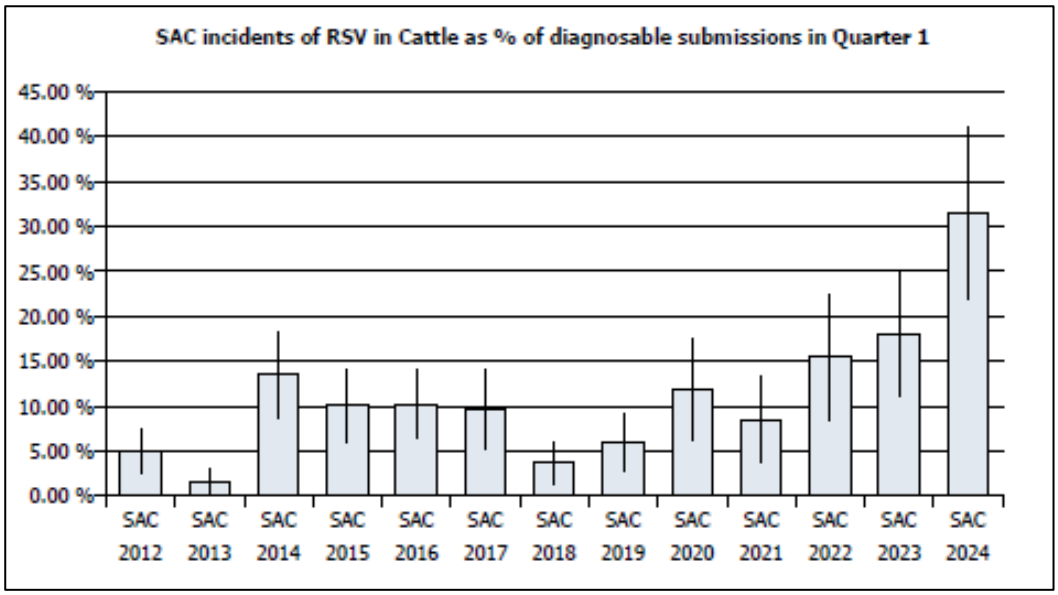

Figure 7: Diagnoses of BRSV in Scotland in Quarter 1 2012 to 2024 as a percentage of diagnosable submissions

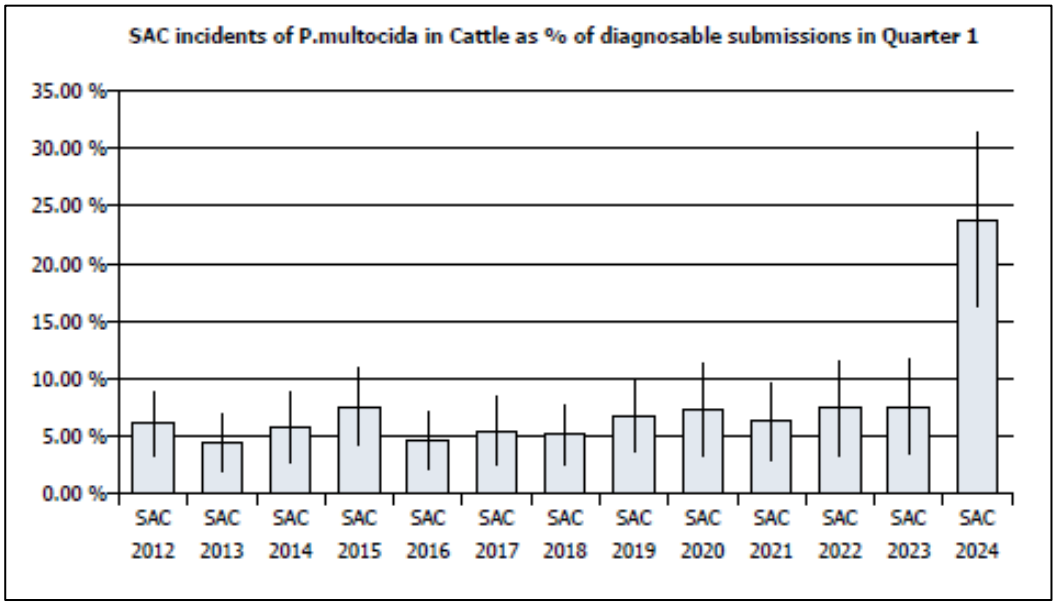

Figure 8: Diagnoses of *Pasteurella multocida* in Scotland in Quarter 1 2012 to 2024 as a percentage of diagnosable submissions

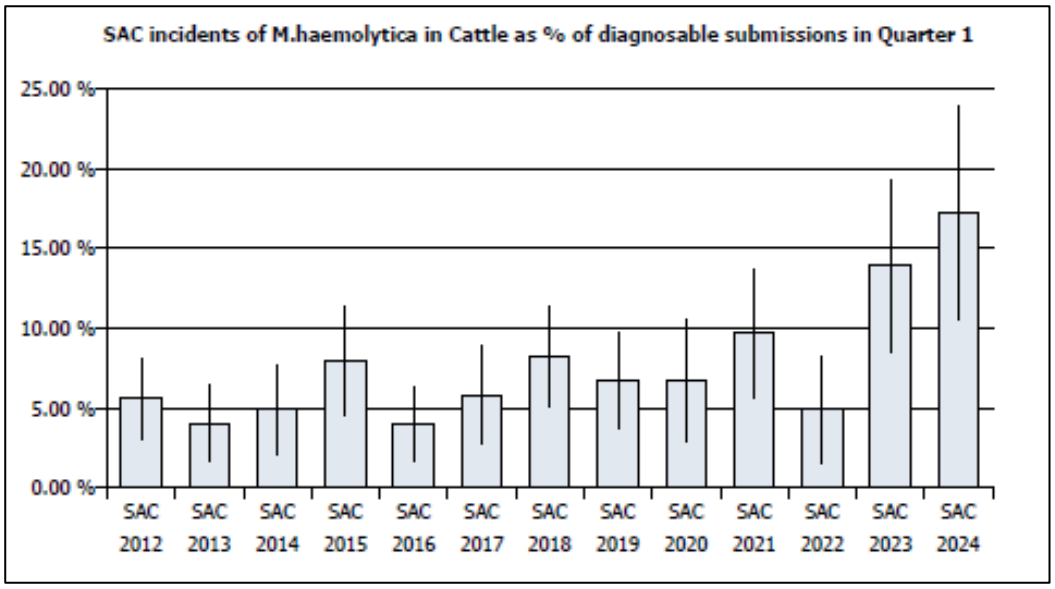

Figure 9: Diagnoses of *Mannheimia haemolytica* in Scotland in Quarter 1 2012 to 2024 as a percentage of diagnosable submissions

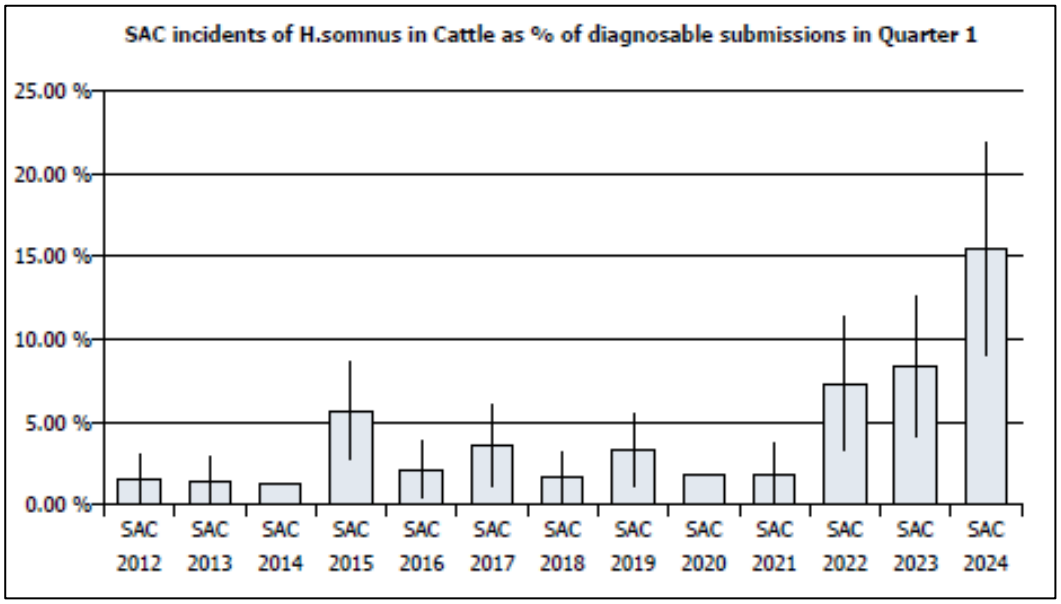

Figure 10: Diagnoses of *Histophilus somni* in Scotland in Quarter 1 2012 to 2024 as a percentage of diagnosable submissions

Nervous system and organs of special sense

Cerebrocortical necrosis in a group of fattening cattle

Five fattening animals from a group of 50 presented with blindness, hypermetria and ataxia over the course of a six-week period. Two affected animals progressed to recumbency prior to death, and a recumbent 15-month-old Luing-cross was euthanased for investigation of the problem. PME was mostly unremarkable, however localised areas of the brain were found to fluoresce under ultraviolet light (Figure 7). This suggested a

diagnosis of cerebrocortical necrosis (CCN), which was confirmed by histopathology (which described severe multifocal laminar necrosis in the cerebral cortex).

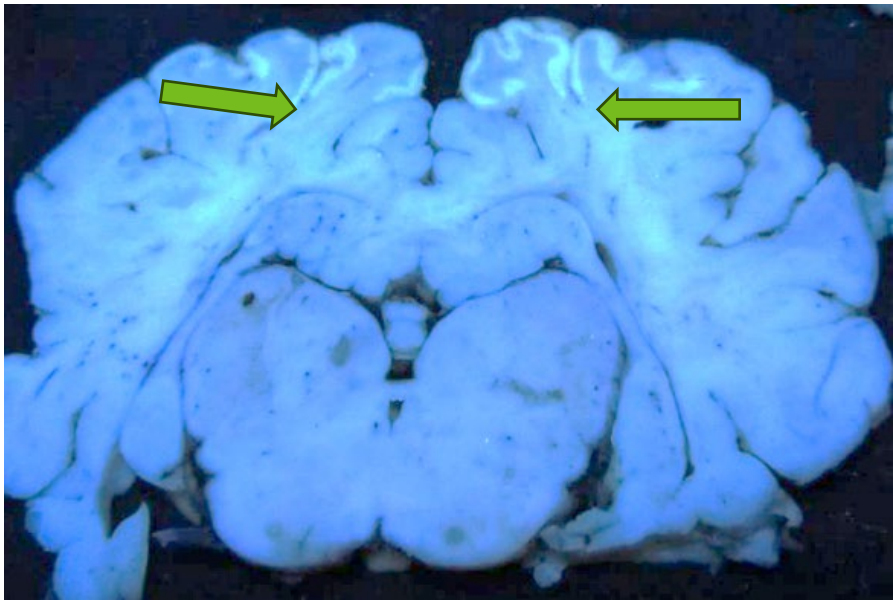

Figure 7: Fluorescence of the cerebrum (arrowed) under ultraviolet light in a case of cerebrocortical necrosis

The two remaining affected animals recovered following treatment with vitamin B1. Proliferation of thiaminase producing bacteria within the rumen is thought to induce CCN, however the conditions that promote their multiplication remain uncertain. Predisposing factors may include diet change, high cereal inclusion rates, lead poisoning, chronic copper toxicity and high levels of dietary sulphur all of which were excluded on history and diagnostic testing. The affected animals were fed a total mixed ration comprising silage and 4kg barley per head per day. A second group of cattle in the same shed received 10kg barley per head per day and were unaffected. It was hypothesised that the outbreak may have been caused by inadvertently feeding a higher than intended quantity of barley to the affected group resulting in an abrupt increase in cereal intakes on at least two occasions.

Mannheimia varigena meningitis in a neonatal Charolais calf

A one-week-old Charolais bull calf was presented to SRUC-VS for postmortem examination with a history of rapid deterioration, recumbency and seizures prior to death. The calf had been born to a heifer following a straightforward assisted calving and weighed 59 kg at the time of death. It was slow to suckle, so was fed with colostrum replacer for the first 24 hours. Omphalophlebitis was noted and *Mannheimia varigena* was isolated from the umbilicus, liver and brain. *M varigena* is a commensal of the upper respiratory tract and has previously been reported as a cause of fatal meningitis in neonatal calves. *Escherichia coli* was isolated from the bladder and kidney, associated with turbid urine and unilateral mild hydronephrosis. This calf exhibited many of the risk factors associated with failure of passive transfer being male, born to a heifer following an assisted calving, and having a poor suck reflex. A ZST result of 9 units (reference range >

19 units) confirmed hypogammaglobulinaemia, which will have predisposed to bacterial septicaemia despite the use of prophylactic antibiotics.

Skin disease

Generalised follicular hypoplasia in a 5-day-old Limousin-cross calf with alopecia

Formalin fixed skin samples were received from a five-day-old Limousin-cross calf. The animal had developed generalised alopecia, mild scaling and self-grooming shortly after birth. The calf was not pruritic, and the herd was BVD free. Interestingly, histopathology revealed the hair follicles and shafts were smaller than expected for the age of calf. Thin hair shafts would epilate and break easily, leading to alopecia and self-grooming behaviour noted clinically. It was deemed most likely that this generalised follicular hypoplasia was the result of an in-utero process affecting cutaneous circulation, such as subclinical disease or pyrexia in the dam. It was thought that other calves in the herd would likely not be affected, and the hair coat in this animal should return to normal in the future.

Call for farms with a high prevalence of Udder Cleft Dermatitis (UCD)

The APHA Cattle Expert Group are on the lookout for dairy farms that have issues with UCD, for a collaborative project investigating the aetiology and pathogenesis of this condition. Farms with a high prevalence of UCD, and which can identify cases early, would be suitable for the study. These lesions are regularly observed in carcases received through the postmortem provider network. Please contact Vanessa Swinsonon by telephone: + 44 (0) 208 5654574, email: Vanessa.swinson@apha.gov.uk or your local PME provider.

Circulatory Disease

Myocarditis and meningitis caused by *Histophilus somni in a* 7-month-old calf

Myocarditis and meningitis caused by *Histophilus somni* was diagnosed in a 7-month-old suckler calf. The calf had been weaned approximately one month prior and, had been moved into a shed with 20 homebred heifers and 50 purchased bullocks. The group was housed and fed silage, straw, and cake. The submitted calf had been lethargic and had exhibited hindlimb weakness. This was the second calf to die following a similar presentation.

Postmortem examination revealed a moderate volume of clear light yellow viscous fluid in the left tarsal and right carpal joints. There were small white multifocal rounded lesions diffusely affecting the myocardium. The cerebral hemispheres were surrounded by yellow fluid. *Histophilus somni* was cultured from the brain and the lungs. Histological examination of the brain confirmed the lesions to be typical of infection, with *H. somni* causing thrombotic meningoencephalitis. Vascular injury had led to tissue necrosis in

some areas, producing malacic lesions in the thalamus and cerebral cortex, whilst accumulation of exudate in the ventricular system has most likely led to obstruction and mild hydrocephalus.

The recent weaning in additional to mixing with a large number of new animals were stressors which may have contributed to this animal's increased susceptibility to *H. Somni* infection. A review of this transition period was advised to avoid further losses due to *H. somni* or other opportunistic pathogens.

Reproductive system – Abortion, Stillbirth, and Congenital Deformities

The most frequent diagnoses from abortion and stillbirth submissions made in the first quarter (Q1) of 2024, compared to Q1 in 2023, and Q1 for 2015 to 2024 inclusive, through the Great Britain (England, Wales, and Scotland) scanning surveillance network, are illustrated in Table 2. These can be interrogated further using the interactive cattle disease surveillance dashboard which was launched in October 2017.

Table 2: Great Britain scanning surveillance 10 most frequent abortion and stillbirth submission diagnoses in Q1 of 2024, Q1 of 2023, and Q1 for 2015-2024

10 most frequent abortion diagnoses Q1 2024	10 most frequent abortion diagnoses Q1 2023	10 most frequent abortion diagnoses Q1 2015-2024
1. Fetopathy due to *Trueperella pyogenes*	1. Fetopathy diagnosis not listed	1. Fetopathy diagnosis not listed
2. Fetopathy due to fungi	2. Fetopathy due to *Trueperella pyogenes*	2. Fetopathy due to *Trueperella pyogenes*
3. Fetopathy due to Schmallenberg virus	3. Fetopathy due to *Bacillus licheniformis*	3. Fetopathy due to *Bacillus licheniformis*
4. Fetopathy due to *Bacillus licheniformis*	4. Fetopathy or stillbirth due to congenital abnormality	4. Fetopathy due to *Neospora* infection
5. Fetopathy due to *Neospora* infection	5. Fetopathy due to fungi	5. Fetopathy due to fungi
6. Fetopathy or stillbirth due to congenital abnormality	6. Fetopathy due to *Neospora* infection	6. Fetopathy due to Listeria sp
7. Fetopathy due to Listeria sp.	7. Stillbirth due to bradytocia	7. Fetopathy or stillbirth due to congenital abnormality

8. Fetopathy diagnosis not listed	8 Fetopathy due to *E. coli*	8. Fetopathy due to *Salmonella* Dublin
9. Fetopathy due to *Salmonella* Dublin	9. Fetopathy due to Listeria sp.	9. Fetopathy with BVD detected in the fetus
10. Fetopathy due to *E. coli*	10. Fetopathy due to *Salmonella* Dublin	10. Stillbirth due to bradytocia

Q fever as a cause of stillbirths in dairy heifers

The first 12 Jersey heifers, in a large seasonally calving dairy herd, gave birth to full term stillborn or weak calves. The group of 20 were in calf to synchronised artificial insemination (AI), there was no history of bradytocia, and calves born to cows were unaffected. Four stillborn calves, three placentae, and one live born calf that had subsequently died were examined postmortem. A suggestion of placentitis was noted in one, and suspected inclusion bodies were seen on a modified Ziehl-Neelsen stained smear of placenta. This triggered PCR testing for *Coxiella burnetii* (Q fever), which proved positive. Routine testing failed to produce a diagnosis in the other four cases, but PCR testing of the other two placentae also returned a positive Q fever result. Histopathology was inconclusive with only placental congestion and oedema detected. Nonetheless, it was proposed that the detection of *Coxiella burnetii* was significant because the heifers had been reared away from home before returning to mix with dry cows in late gestation. This has previously been shown to be a risk factor for Q fever associated stillbirths.

Porencephaly in a Limousin calf

A three-day-old Limousin heifer calf was submitted to SRUC-VS to investigate an ongoing issue with the birth of blind calves in a 90-cow pedigree beef herd. The herd calved all year round and 13 affected calves had been born with no seasonal pattern identified. The herd was BVD accredited and closed, apart from the occasional purchase of a bull. Artificial insemination was frequently used and affected calves were suspected to have been sired by four different bulls. The submitted calf had able to stand but was mildly ataxic with a wide-based stance. Pupillary and menace reflexes were absent, and it had reduced mentation overall, and was euthanised. Examination of the brain found anterior, dorsal and lateral porencephaly (Figure 8) within the cerebral hemispheres. Bluetongue was ruled out as a differential diagnosis based on the history and in consultation with APHA. This presentation has been described in a small number of pedigree Limousin herds and genotyping is in progress at the University of Bern to investigate a possible genetic cause.

Figure 8: Porencephaly in a neonatal Limousin calf with a suspected genetic aetiology

Centre of Expertise for Extensively Managed Livestock

The COEEML was developed by APHA to address potential surveillance gaps for extensively managed animals. Extensive management of livestock potentially makes regular or close inspection for disease detection more challenging. The Centre is based at the APHA Veterinary Investigation Centre in Carmarthen; however, it is a Great Britain-wide resource and forms part of the wider veterinary surveillance system operated by APHA. For more details, please read the COEEML pages on the Vet Gateway.

Antimicrobial use and resistance

The Veterinary Antibiotic Resistance Sales and Surveillance (UK-VARRS) Report 2022 has been published by the Veterinary Medicines Directorate (VMD).

This latest UK-VARSS report continues to document downward trends in sales of veterinary antibiotics in the UK. In addition, the latest RUMA Targets Task Force report can be found on the RUMA website.

The Medicine Hub, a voluntary industry initiative, developed and managed by AHDB, was launched in 2021 and provides a central location for the collection of medicine data, including antibiotic use.

Chemical food safety

Find the latest Chemical Food Safety Reports.

Toxic conditions

There were no significant trends for this quarter.

Horizon scanning

International Disease Monitoring (IDM) horizon-scanning activities monitor for major, notifiable, or new and re-emerging animal disease outbreaks worldwide. This is done to provide an early warning and to assess the risks they may pose to the United Kingdom (UK), particularly for those diseases which impact on animal health and welfare, international trade, public health, or wider society. IDM also assess the risk that animal diseases might come into the UK through the trade in animals or animal products (legal or illegal), through movements of wildlife, or through the movement of fomites and vectors such as insects which may carry infectious disease. These outbreak assessments are used to guide decisions how to manage or reduce the risks.

Bluetongue virus in Europe: updated outbreak assessment and maps from England and Europe.

Epizootic Haemorrhagic Disease (EHD): 28 November 2023: epizootic haemorrhagic disease in Europe

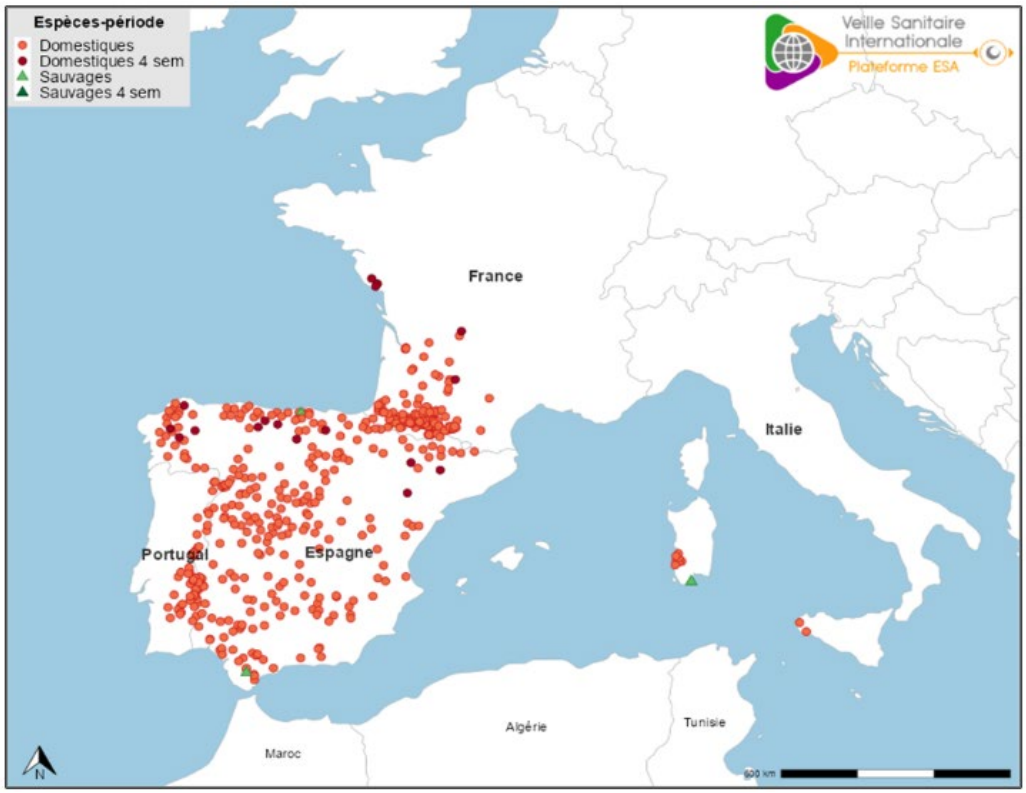

Figure 9: Map showing historic EHD outbreaks detected since 25 October 2022 (orange dots) and outbreaks that have occurred between 29 October and 26 November 2023 (red dots) in Europe, reported by the EU Animal Diseases Information System (ADIS).

Find further information on Epizootic Hemorrhagic Disease Virus.

APHA Publications of interest

APHA (2023) Disease surveillance in England and Wales, January, February, and March 2024. Veterinary Record:

Disease surveillance in England and Wales, January 2024

Disease surveillance in England and Wales, February 2024

Disease surveillance in England and Wales, March 2024

Find the monthly APHA disease surveillance reports.

Find the APHA focus articles in the Veterinary Record

Find the APHA surveillance focus article on managing liver fluke on hill farms here: APHA Surveillance Focus Article, August 2022. *Veterinary Record*

Find the 2022 edition of the *Salmonella* in animals and feed in Great Britain (previously called *Salmonella* in Livestock Production in GB).

Otter A; Schock A; Payne J (2023) A form of hepatogenous copper poisoning in fattening cattle associated with the ingestion of mouldy straw. Vet Record Case Reports 11 (2) 2592.

Jewell N; Swinson V; Hayman C; Martindale L; Brzozowska A; Mitchell S (2023) Laboratory diagnosis of gastrointestinal nematodes in first-grazing season cattle. Veterinary Record 192 (9) 364-36

Otter A; Brzozowska A (2022) Pneumonia in adult cattle, *Veterinary Record 5/12 March 2022 191-193*

Statement regarding use of this material

This publication is available at:

https://www.gov.uk/government/collections/animal-disease-surveillance-reports

Any enquiries regarding this publication should be sent to us at SIU@apha.gov.uk

http://apha.defra.gov.uk/vet-gateway/surveillance/index.htm

The Animal and Plant Health Agency (APHA) is an executive agency of the Department for Environment, Food & Rural Affairs, and also works on behalf of the Scottish Government and Welsh Government.