Animal & Plant Health Agency

SRUC

Great Britain small ruminant quarterly report

Disease surveillance and emerging threats

Volume 27 Quarter 1 – January to March 2024

Highlights

Contents

Editor: Rudolf Reichel, APHA Thirsk
Phone: 03000 600098
Mobile: +44 (0)7342 070255
Email: rudolf.reichel@apha.gov.uk

Introduction and overview

This quarterly report reviews disease trends and disease threats in Great Britain (England, Scotland and Wales) for the first quarter of 2024, January to March. It contains analyses carried out on disease data gathered from the Animal and Plant Health Agency (APHA), the Veterinary Services division of Scotland's Rural College (SRUC) and partner postmortem providers and intelligence gathered through the Small Ruminant Species Expert networks. In addition, links to other sources of information, including reports from other parts of the APHA and the Department of Environment, Food and Rural Affairs (Defra) agencies, are included. A full explanation of how data is analysed is provided in the annexe available on GOV.UK.

APHA's Emerging & Endemic Disease Alert System (EEDAS)

This is a component of the communications from our scanning surveillance network and a new system that the APHA uses to keep you up to date with significant disease alerts and information, projects, publication of reports and other items. This is independent of the notifiable disease alert system. To receive these notifications please respond to siu@apha.gov.uk, providing your preferred:

- email address you would like us to use
- mobile telephone number if you wish to receive text alerts

We hope that you find this EEDAS messaging system to be beneficial and any suggestions or feedback are welcome.

Issues and trends

Weather

Further details to the monthly summaries below can be found at the Met Office climate summaries and the Met Office UK temperature, rainfall and sunshine anomaly graphs.

January: mostly colder than average conditions during the first half of the month, were compensated for by much milder conditions later in the month, resulting in close to average temperatures for the UK for the month overall (anomaly -0.1°C). Rainfall was close to average levels across the UK (97% of the long-term average), with the wet start and end of the month compensated for by the dry spell mid-month. Wales and northern England bore the brunt of the rainfall, while Northern Ireland was much drier (75% of the long-term average). Much of the UK experienced above-average sunshine hours (128% of the long-term average).

February: overall, temperatures for the month were warmer than average, especially across England. The UK overall was provisionally 2.2°C warmer than average, making this

the second warmest February in the series from 1884, behind 1998. It was the warmest February on record for England and Wales. February was a very wet month across the southern half of the UK, which received more than twice the average rainfall widely, for some locations more than three times. Southern England recorded 239% of average and for this area it was the wettest February on record. East Anglia recorded both its warmest and its wettest February on record. Sunshine was below average for most of the UK (79% of the average sunshine hours).

March: overall, the provisional mean temperature for the UK was 6.7°C, 1.0°C above average. Southern England was much milder than areas further north, with a provisional mean temperature of 8.2°C (anomaly of 1.4°C) for southern England and 5.0°C (anomaly of 0.6°C) for Scotland. England provisionally recorded the seventh-warmest March on record in a series from 1884. The UK overall recorded provisionally 127% of the long-term average rainfall for March, with much of this concentrated in the south. England and Wales both recorded more than 150% of their long-term average monthly rainfall, while Scotland recorded just 90% of the average March rainfall. As well as wet, the month was also dull, with the UK provisionally recording just 95.2 hours of sunshine (87% of the long-term average).

The wet weather will increase suitable habitat for the intermediary host of both liver fluke and rumen fluke and may cause an increase in incidence. The nature of these diseases is such that increases will only be seen a few months later. The wet weather resulted in waterlogged, muddy fields necessitating a delay in turning out after lambing. This will have resulted in an increase challenge from neonatal diseases both due to indoor conditions becoming adverse due to overcrowding, and from the wet and muddy conditions when turned out.

Industry

Agriculture and Horticulture Development Board (AHDB) lamb market updates

- **Prices**: for the week ending 30 Mar, the GB deadweight old season lamb SQQ averaged 816 pence per kilogram. Prices have risen exponentially throughout the quarter by 200 pence per kilogram from the beginning of the year, as domestic supplies remain tight.

- **Production:** clean sheep slaughter in March sat at 988,000 head, which is the lowest March kill since 2021, with reports of wet weather making it harder to finish, and fewer working days compared to last year. Sheep meat production in the UK totalled 23,600 tonnes in March, a fall of 4,400 tonnes (-16%) from 2023 (Defra).

- **Trade:** Year to date (Jan-Feb 2024) imports of sheep meat totalled 9,150 tonnes, up 53% on the same period of the previous year. Some of this increase can be attributed to reductions in product received from New Zealand in 2023, which has impacted year-on-year comparisons. Exports have increased to 13,120 tonnes for

the year to date (Jan-Feb 2024), up 8% on the same period of 2023. These exports totalled at a value of £88.7 million, with a large proportion destined for France.

- **Demand:** in the 12 weeks to the 17 March, retail spend on lamb increased by 7.3% year-on-year, as volumes grew by 4.8%. Prices paid rose by 2.4% on average across lamb cuts and products. Valentine's Day fell in this period, and demand for lamb marinades was a key driver for total lamb's positive performance.

Acknowledgment for the lamb update: Freya Shuttleworth, AHDB

Bluetongue serotype 3 (BTV-3)

The outbreak started in the Netherlands on 5 September 2023 and then spread to Belgium and Germany, with the first cases reported there on 10 October and 13 October 2023 respectively.

One bovine tested positive for Bluetongue virus (BTV) serotype 3 on a farm premises in Kent, tested as part of the annual Bluetongue survey on 2 November 2023. Since then, there have been 126 bluetongue cases confirmed in England across 73 premises in 4 counties (Kent, Norfolk, Suffolk and Surrey), with the last case confirmed on 8 of March 2024. All cases confirmed to date have been detected through active surveillance, with the animals likely infected in late autumn 2023.

Due to their proximity to areas in northern Europe where bluetongue is present, counties along the south and east coasts of England, including Norfolk, Suffolk, Essex, Kent, and East Sussex, are considered most likely to be impacted by a wind-borne incursion of biting midges. But these could change if disease spreads in northern Europe.

Bluetongue virus is a notifiable disease. Suspicion of bluetongue virus in animals must be reported to the Animal and Plant Health Agency on 03000 200 301 in England, on 03003 038 268 in Wales, and to the local Field Services Office in Scotland.

The government published their Bluetongue disease control framework set out on GOV.UK on 23 May 2024.

Further guidance and information are available on the Ruminant Health & Welfare site, Bluetongue: information and guidance for livestock keepers (GOV.UK) and the Bluetongue: how to spot and report it (GOV.UK).

Schmallenberg

Following acute infection (that is mostly subclinical in sheep) during the autumn of 2023, Schmallenberg virus was confirmed as the cause of deformed lambs and calves being born from December 2023 onwards. Surveillance findings in sheep and cattle and an updated Schmallenberg disease guide have been published.

Unusual diagnoses

Ovine Protozoal Myeloencephalitis (OPM)

A one-year-old tup was submitted to Thirsk Veterinary Investigation Centre (VIC) for postmortem examination to investigate progressive weakness and paresis over several weeks, eventually leading to recumbency. No obvious lesions were seen grossly but histopathological examination of the brain and spinal cord identified a severe, multifocal to coalescing, necrotising, non-suppurative meningoencephalomyelitis. Louping ill virus (LIV) infection or a protozoal insult were the primary differentials. LIV infection was excluded with no evidence of LIV labelling on immunohistochemistry and negative serology. Ovine protozoal myeloencephalitis was confirmed by Giemsa staining which demonstrated abundant intracellular *Sarcocystis* spp. zoites.

There are several different *Sarcocystis* species and infections with *Sarcocystis tenella* are relatively common in sheep. Past seroprevalence studies suggest that exposure to *S. tenella* infection can be demonstrated in over 80% of sheep. The presence of mature cysts embedded in striated muscle tissue, including the myocardium, is a common incidental finding and is rarely associated with any clinical manifestations. Carnivores, such as dogs and foxes are considered the primary hosts, with sheep as the intermediate host in the life cycle. OPM is sporadically reported and in some cases, outbreaks can occur affecting multiple animals. The precise aetiology of the condition remains unclear, but it is suggested that husbandry factors may affect the degree of exposure to infective stages of the parasite. In OPM cases it is likely that affected animals are exposed to high levels of the parasite in contaminated faeces several months earlier in the grazing season, and that the weight of challenge initiates widespread infection extending into the nervous system. There are no specific disease control measures, but prompt disposal of casualty sheep carcases and raw sheep offal to prevent consumption by scavenging carnivores will reduce opportunities for transmission of infection.

Animal Health and Welfare Pathway and the Worming Treatment Check

Annual Health and Welfare Review

The Animal Health and Welfare Pathway supports continued improvements in farm animal health and welfare in England. The first step on the Pathway – the Annual Health and Welfare Review – has been rolled out, and is a funded annual visit from a vet or a vet-led team. It can be undertaken whenever it works for the farmer. It will allow the farmer and their vet to concentrate on their animals' specific health and welfare priorities. During the visit, the vet will provide bespoke advice and arrange some diagnostic testing around endemic diseases – these were agreed by the farmers and vets who helped to design the

Pathway. The Worming Treatment Check is the chosen test for sheep flocks. It is recommended that vets send samples to approved laboratories for testing. Follow this guidance when you test for the effectiveness of worming treatments in sheep as part of an annual health and welfare review.

Find out more about the Animal Health and Welfare Pathway and how to carry out the Annual Health and Welfare Review.

Update on testing for endemic diseases

From 19 June, new support is available to help tackle endemic diseases on farms. It's called 'Get funding to improve animal health and welfare':

- Rural payments blog – Get funding to improve animal health and welfare (GOV.UK)
- Guidance – Funding to improve animal health and welfare: guidance for farmers and vets (GOV.UK)
- Use the service – Get funding to improve animal health and welfare (GOV.UK)

This will initially be for beef cattle, pigs and sheep, and is part of the Animal Health and Welfare Pathway. This support is not yet available to keepers of dairy cattle and the availability will be communicated to dairy cattle keepers in due course.

This support will go towards more in-depth diagnostic testing for Porcine Reproductive and Respiratory Syndrome (PRRS) in pigs and identifying persistently infected cattle on farms with Bovine Viral Diarrhoea (BVD). In the case of sheep, the farmer will, in consultation with their vet, choose from a range of health improvement packages. These will target the syndrome that is most prevalent and provides most benefit to treat in each flock.

The payment rates for this support vary by species:

- £215 for beef cattle with no BVD
- £837 for beef cattle where BVD is present in the herd
- £639 for sheep
- £923 for pigs

As well as testing, keepers will also receive advice on the results of the tests, how to remove disease from their farm and how to improve their biosecurity.

Goat disease surveillance dashboard outputs

The most frequent diagnoses in goats, from 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. Please note that the diagnosis of Parasitic Gastroenteritis (PGE) excludes PGE due to Haemonchosis and PGE due to Nematodirus.

Table 1: Great Britain scanning surveillance 5 most frequent goat submission diagnoses in Q1 of 2024, Q1 of 2023, and Q1 for 2015-2024

	5 most frequent diagnoses Q1 2024	5 most frequent diagnoses Q1 2023	5 most frequent diagnoses Q1 2015 to 2024
1	**Parasitic Gastroenteritis (PGE)**	Johne's Disease	Parasitic Gastroenteritis
2	**Johne's Disease**	Parasitic Gastroenteritis	Johne's Disease
3	**Clostridium perfringens type D infection**	Clostridium perfringens type D infection	Clostridium perfringens type D infection
4	**Listeriosis (encephalitis)**	Fetopathy – Enzootic	Listeriosis (encephalitis)
5	**Chronic fascioliasis**	Hypocupraemia or hypocuprosis	Fascioliasis

Sheep disease surveillance dashboard outputs

The most frequent diagnoses in sheep from 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 sheep disease surveillance dashboard, which was launched in October 2017. Please note (as above) that Parasitic Gastroenteritis (PGE), excludes PGE Haemonchosis and PGE Nematodirus. Pneumonia due to Other Causes, excludes Pneumonia due to *Mannheimia haemolytica, Mycoplasma ovipneumoniae, Pasteurella multocida*, and parasitic pneumonia (lungworm).

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

	10 most frequent diagnoses Q1 2024	10 most frequent diagnoses Q1 2023	10 most frequent diagnoses Q1 2015 to 2024
1	**Fetopathy – Schmallenberg virus**	Fetopathy – Campylobacter	Fetopathy – Enzootic
2	**Fetopathy – Enzootic**	Parasitic Gastroenteritis	Fetopathy – Toxoplasma
3	**Fetopathy – Toxoplasma**	Fetopathy – Enzootic	Parasitic Gastroenteritis
4	**Fetopathy – Campylobacter**	Fetopathy – Campylobacter	Fetopathy – Campylobacter
5	**Parasitic Gastroenteritis**	Fetopathy not listed	Chronic fascioliasis
6	**Fetopathy not listed**	Sheep scab	Fetopathy not listed
7	**Congenital abnormality**	Johne's disease	Fetopathy – Schmallenberg virus
8	**Chronic fascioliasis**	Listeriosis (encephalitis)	Sheep scab
9	**Listeriosis (encephalitis)**	Pneumonia due to *M. haemolytica*	Johne's disease
10	**OPA (Jaagsiekte)**	Clostridium perfringens type D infection	OPA (Jaagsiekte)

Changes in disease patterns and risk factors

Syndromic analysis

Syndromic alerts were raised this quarter, in comparison to the quarter average of the previous 5 years for Great Britain, for the following diseases.

Increases:

- Hereditary or developmental abnormalities – NOS (APHA only)
- Chronic fasciolosis
- PGE Nematodirus
- Diagnosis not listed – skin disease
- Fetopathy associated with Schmallenberg virus (SBV) infection

Decreases:

- Sheep scab due to *Psoroptes ovis*
- Fetopathies other than those associated with SBV, all show a corresponding decrease on the database because of the increase in SBV associated fetopathies

Parasitology

Chronic Fasciolosis

There has been an increase in incidents of chronic fasciolosis in sheep as a percentage of diagnosable submissions in Great Britian in quarter one (Q1) of 2024, compared to Q1 in the last 5 years (Figure 1).

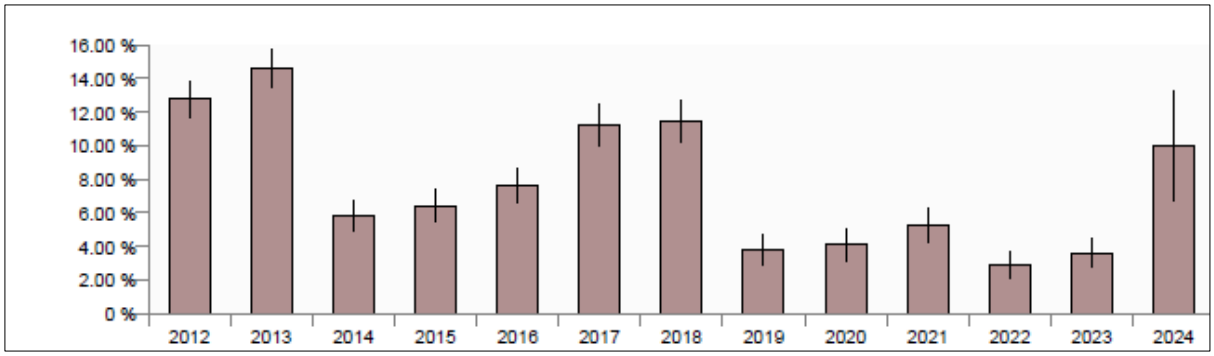

Figure 1: A significant increase in the percentage of diagnosable submissions for Chronic Fasciolosis cases in Q1, 2024 for GB, compared to the equivalent quarters in previous years.

The highest number of diagnoses were from Scotland, followed by Northern England. Scotland had a similar level compared to Q1 from previous years, but there was a marked increase in Northern England. (Figure 2).

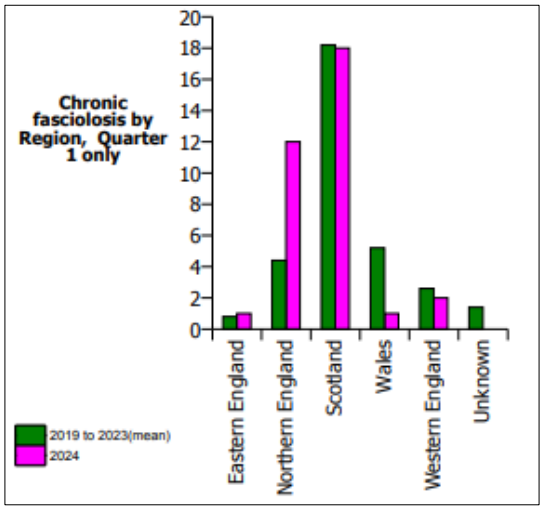

Figure 2: The highest number of submissions of chronic fasciolosis during Q1 is from Scotland. There was an increase in cases detected in Northern England, compared to the equivalent quarters in previous years.

These changes are likely to be due to the changes in the weather pattern experienced over the past few months, with higher temperatures and increased rainfall in Scotland and Northern England.

Parasitic gastroenteritis, haemonchosis, and chronic fasciolosis in a ewe

A ewe was submitted for postmortem examination to investigate ill-thrift and mortality after the birth of healthy lambs. The flock was housed for lambing from the end of December, during which time many lost condition, and 10 out of 150 ewes died. The ewes had not been wormed, however, they had been fluked with an unspecified product.

The gross postmortem findings were chronic-active liver fluke infestation (Figures 3 and 4). The history of having received flukicide at housing indicated the treatment for fluke had been ineffective. A faecal egg count and total worm estimate revealed a high *Trichostrongyle spp.* egg count and the detection of *Haemonchus* spp. A review of parasite control and referral to Sustainable Control of Parasites in Sheep (SCOPS) guidance was recommended.

Figure 3: Pale swollen liver with migratory fluke tracts visible.

Figure 4: Incised gall bladder showing petechiation associated with adult liver fluke.

Systemic disease

Hereditary or developmental abnormalities NOS

The number of diagnoses of hereditary or developmental abnormalities not otherwise specified (NOS) during Q1 of 2024, was significantly increased compared to the same quarter for the preceding 5 years. This was likely to have been related to the recent resurgence of Schmallenberg virus (SBV), causing malformed aborted or stillborn lambs.

The Veterinary Investigation Diagnosis Analysis (VIDA) code for hereditary and developmental abnormalities NOS can be assigned when an abnormality is apparent at birth, for which there is not a definitive aetiology or diagnosis. It includes those likely to be caused by SBV infection based on foetal fluid or dam serology, and typical gross pathology, but without a positive PCR result or pathognomonic histopathology. If deformities are identified in a lamb which are typical of in-utero SBV infection (for example, musculoskeletal, central nervous system deformities) a negative SBV polymerase chain reaction (PCR) result does not necessarily rule out SBV as the cause. This is because the foetus may have been able to clear the virus by producing neutralising antibodies in utero. Western England was overrepresented, with 50% of diagnoses being made in this region (Figure 5). This corresponds with the distribution of confirmed SBV cases.

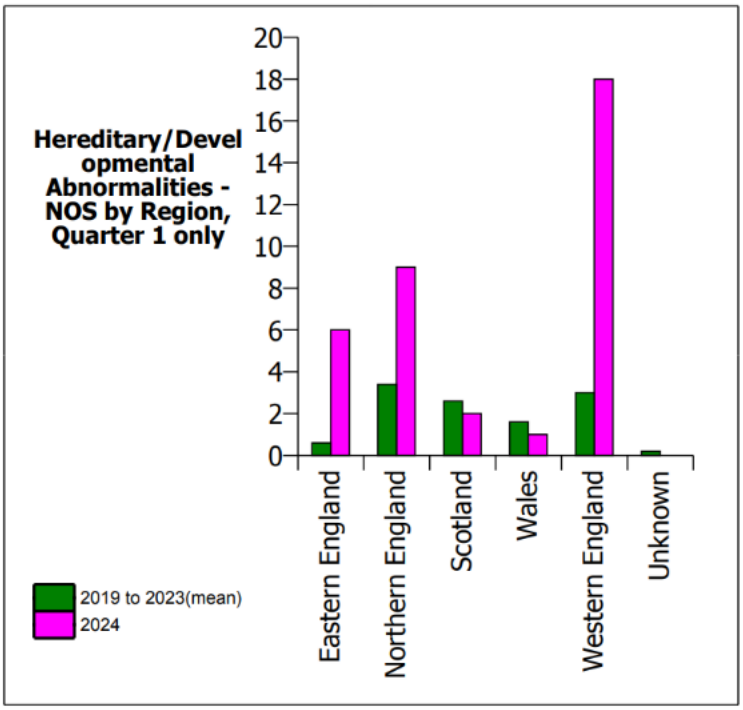

Figure 5. Diagnoses of hereditary or developmental abnormalities NOS during Q1 2024 by region, showing the highest number recorded in Western England.

Skin disease

Diagnosis not listed – skin disease

Cases within APHA where a diagnosis of skin disease was made that could not be assigned to a current listed VIDA code included ulcerative dermatitis (3 incidents), traumatic skin lesion (1 incident), and suspected ichthyosis (1 incident).

Sheep scab due to *Psoroptes ovis*

A syndromic alert indicates a decrease in sheep scab diagnoses in Q1 compared to the previous 5 years. Figure 6 shows that the number of GB incidents of sheep scab as a percentage of diagnosable submissions in Q1 of 2024 was comparable to the equivalent quarter in 2023, however was lower than the 3 years before that. These lower figures are likely due to fewer samples submitted to APHA centres for diagnostic testing, rather than a decline in the disease. Anecdotal reports indicate high levels of disease in most of the sheep dense areas.

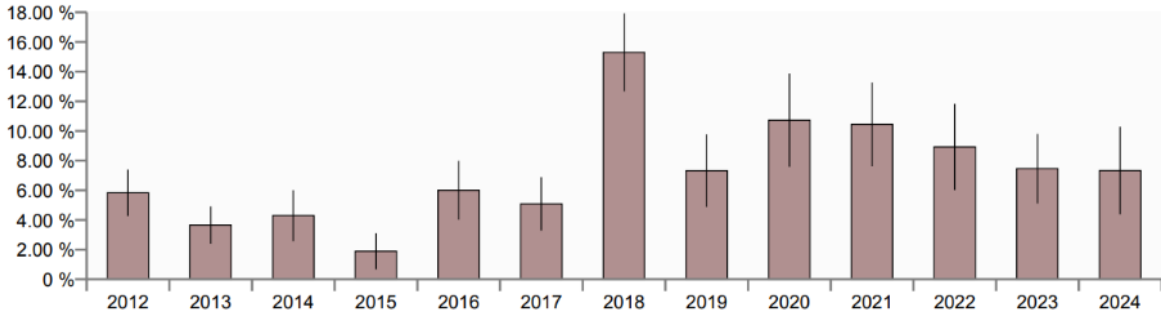

Figure 6. GB incidents of Sheep scab as percentage of diagnosable submissions for quarter one.

The distribution by region of sheep scab diagnoses in Q1 of 2024 differs to that seen over the preceding 5 years, as demonstrated by Figure 7. Despite the continuation of free ectoparasite testing for sheep showing clinical signs of sheep scab in Wales, the proportion of diagnoses made in Wales has decreased, with the largest proportion (55%) of incidents having occurred in Scotland during Q1. The free testing in Wales is ongoing and is funded by the Welsh Government. Further information about this can be found in English and in Welsh.

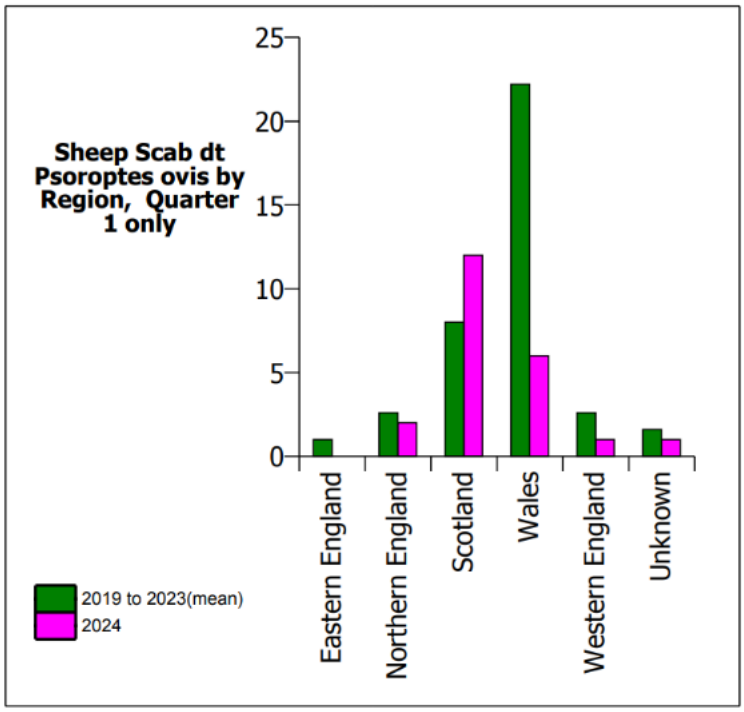

Figure 7. Sheep scab diagnoses by region, Q1 2024.

The proportion of diagnoses made in Wales has decreased, with the majority (55%) of incidents having occurred in Scotland during Q1, 2024.

Respiratory disease

Ovine Pulmonary Adenocarcinoma (OPA) and mixed bacterial pneumonia causing sudden deaths of 2 mature rams

Three rams died suddenly in of group of ewes and rams, after the sheep had escaped into a wooded area. An on-farm postmortem examination identified marked pathology in the lungs of 2 of the rams, and fixed and fresh samples of lung were submitted to investigate. Histopathology confirmed changes consistent with Ovine Pulmonary Adenocarcinoma (OPA) in one ram and suggestive of OPA in the other. There was also a significant secondary chronic bacterial pneumonia in both animals. Bacterial cultures confirmed *Mannheimia haemolytica* and *Bibersteinia trehalosi* infection in the lungs of one ram, and *Mannheimia haemolytica* and *Trueperella pyogenes* infection in the lung of the second.

The possibility of Maedi Visna was also considered, as chronic interstitial pneumonia was also present in one section of the lung of one of the animals. Serology screening of some of the cohorts for Maedi Visna was suggested, targeting preferably thinner, older animals in the flock.

Laryngeal chondritis causing sudden death of a pedigree Texel ewe lamb

A 9-month-old pedigree Texel ewe lamb was submitted for postmortem examination after being found dead with no premonitory signs. Another Texel and one Beulah ewe had previously also been found dead in the group of 30 ewes that had been grazing away from home. There was marked swelling of the left laryngeal cartilage and occlusion of the larynx (Fig 8). Both arytenoid cartilages were found to have necrotic centres and there was a purulent core in the left side, findings consistent with asphyxiation due to laryngeal chondritis and oedema as the cause of death.

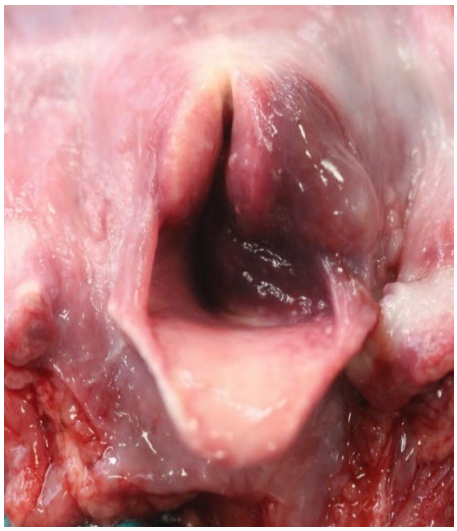

Figure 8. Laryngeal chondritis and oedema causing laryngeal occlusion and death of a Texel ewe lamb

Pasteurella multocida and *Mycoplasma ovipneumoniae* associated with parasitic gastroenteritis

A 10-month-old ewe lamb was submitted for postmortem examination. It was from a group of approximately 320 lambs, which had been moved 4 months previously from higher ground to graze lowland at the current location. They were reported to have been wormed and fluked, and had received vaccination before moving to this location. The group had suffered multiple health problems and there had been several losses since they arrived. A faecal egg count was carried out 2 months previously, which indicated a high worm burden. The group received monepantel wormer, after which losses reduced. Lameness (assumed foot rot) and coughing, with a poor response to respective treatments, had been observed in a significant proportion of the group. The animals were grazing and fed supplementary haylage, with access to a mineral lick. The local practitioner carried out an on-farm postmortem examination and advised to treat the whole group with long-acting oxytetracycline, however losses continued.

The submitted lamb was in poor body condition with little fat present, despite having good rumen fill. The gross postmortem examination indicated a significant parasitic challenge

along with a bacterial pneumonia, with approximately 50% of the lung affected. Pus in the bronchioles indicated a likely bacterial component to the pneumonia. Reddened enlarged mediastinal lymph nodes were present. The presence of ticks on the carcase and a history of multiple disease issues raised the question of an underlying cause of immunosuppression, but tick-borne fever was not identified. A worm egg count detected high numbers of pathogenic species of worms which was likely to be affecting absorption of nutrients and contributing to immunosuppression. *Mycoplasma ovipneumoniae* and *Mycoplasma arginini* were both detected on DGGE PCR.

M. ovipneumoniae is associated with 'atypical' or chronic non-progressive pneumonia in sheep, usually in their first year of life. It is thought that primary infection with *M. ovipneumoniae* may predispose to infection with other respiratory pathogens. *Pasteurella multocida*, resistant to tetracycline, was cultured from the lung and is likely a secondary pathogen. This to some extent supports an observed poor response to pneumonia treatment using tetracyclines. As discussed above, the worm burden was likely to be contributing to immunosuppression and combined with the M. ovipneumoniae infection, resulted in a secondary *Pasteurella* pneumonia (Figure 9).

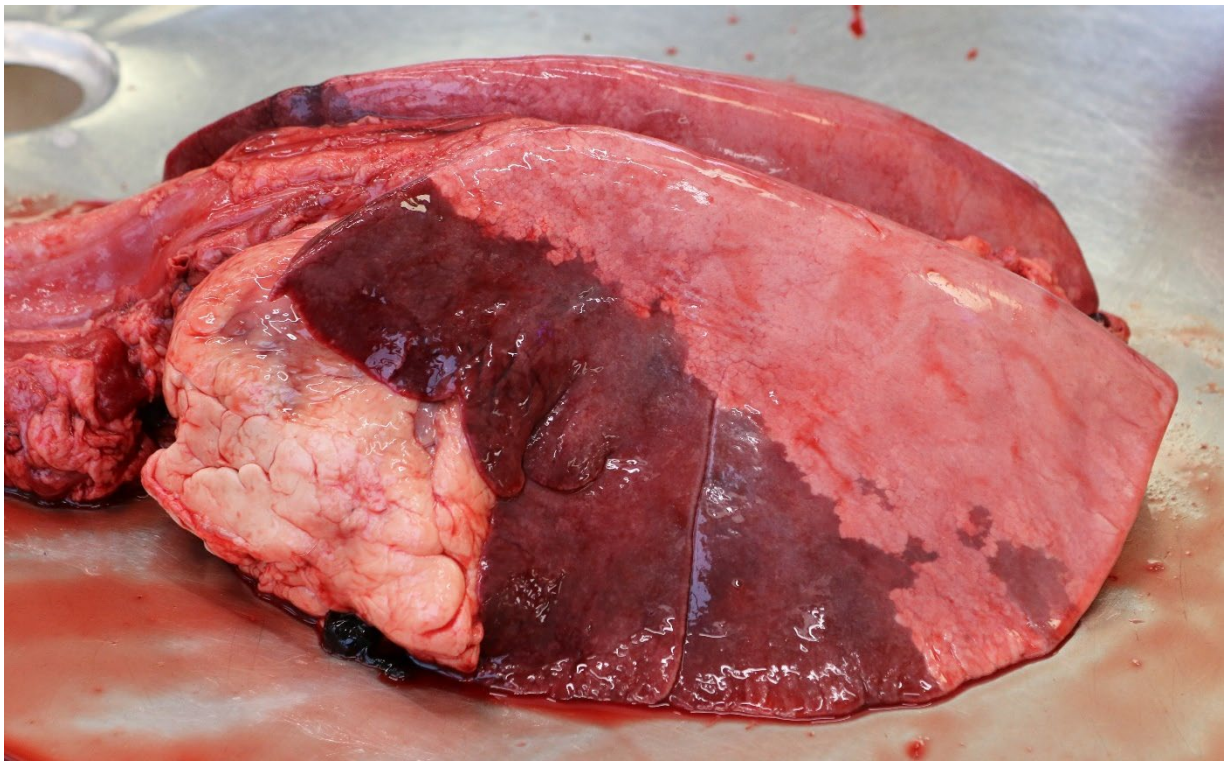

Figure 9. Demarcated cranioventral pneumonia involving *Mycoplasma ovipneumoniae* and *Pasteurella multocida* in a 10-month-old lamb.

Enteric disease

Abomasal-volvulus in a 3-day old lamb

Three, 3-to-4-day-old lambs were submitted to investigate the deaths of 12 neonatal lambs within one week. The lambs had appeared well and were feeding normally but had then started to lie down alone, with cold muzzles, and with some having developed abdominal bloating accompanied by a ‘sloshing’ sound. Within 6-12 hours these lambs were then found dead.

At postmortem examination, this lamb had a grossly distended abomasum (Figure 10). The serosal surface of the whole abomasum was reddened and was dark purple to black in places. The abomasal vessels were grossly engorged. There was torsion of the abomasum at both the proximal duodenum and omasal-abomasal junction. The omasum contained white, frothy liquid which was separated at the torsion with the abomasum containing thick, red clotted contents. The abomasal mucosa was black and sloughing. The left lung had large areas of dark red coalescing patches which were homogenously reddened in caudal lobe. The right lung had cranio-ventral reddening of the cranial lobe.

In addition to the abomasal volvulus, *Mannheimia haemolytica* was cultured from this and one other lamb from the submission. Pneumonia may have made this individual more vulnerable to bloating and resulting instability of the abomasum.

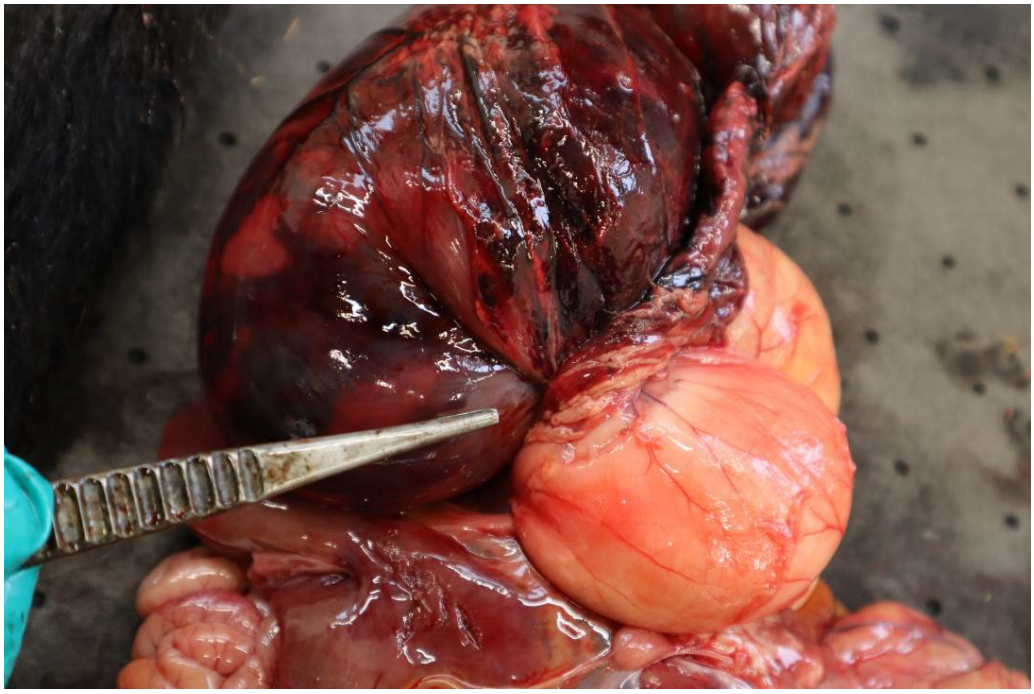

Figure 10. Torsion at the junction of the abomasum and omasum in a 4-day-old lamb

Urinary disease

Bilateral hydronephrosis in a Texel Tup

A full-mouthed Texel tup became dyspnoeic 3 months after arriving at an animal rescue centre in Scotland. It was treated for suspected pneumonia but died 3 days later. External examination of the carcase identified extensive scab material at the base of the fleece over the thorax and abdomen and *Psoroptes ovis* mites were detected, triggering a report to the local Animal Health Office under the terms of The Sheep Scab (Scotland) Order 2010. The scrotum was oedematous, the carcase smelled uraemic (aqueous humour urea 91.2 mmol/l), and a large volume of light red serous fluid was present in the abdomen. The bladder was full and there was bilateral hydronephrosis with marked accumulation of fluid within the renal capsules. A 2cm diameter necrotic lesion was found on the preputial mucosa. The vermiform appendage was intact, but the urethra appeared necrotic along most of its length. Histopathology confirmed a fibrinosuppurative urethritis and revealed large numbers of spermatozoa, with associated necrosis, in the kidney. This was presumed to be a result of vesiculoureteral reflux and was considered to have increased the inflammatory response due to the immunogenic nature of spermatozoa.

Nervous disease

Ovine Protozoal Myeloencephalitis

Described under ‘Unusual Diagnoses’ on page 5.

Poisoning

Read the most recent APHA chemical food safety reports (livestock) on GOV.UK.

TSE

Surveillance for transmissible spongiform encephalopathies (TSEs) is carried out in the United Kingdom in animals susceptible to the disease. This includes cattle, sheep and goats. The main aim is to monitor trends in disease incidence and prevalence, to evaluate the effectiveness of TSE disease controls.

There are 2 categories of surveillance – passive and active.

Passive surveillance

This is when an animal with clinical signs suspicious of BSE or scrapie is reported to an APHA Office to be investigated. Such cases are slaughtered, and the examination of the brain determines whether the animal was affected by a TSE.

APHA has been recording and analysing data from reported cases in cattle since the start of the BSE epidemic in 1986, and for scrapie in sheep and goats since this disease became notifiable in 1993.

Active surveillance

The UK carries out active surveillance for TSEs. The UK has:

- tested cattle since July 2001
- tested sheep and goats since January 2002
- conducted a survey in 2007 and 2008 of farmed and wild deer

Updated TSE statistics are available at:

- Sheep: TSE surveillance statistics (GOV.UK)
- Goats: TSE surveillance statistics (GOV.UK)

Horizon scanning

Epizootic haemorrhagic disease (EHD)

EHD is an exotic notifiable disease, very similar to BTV in terms of vectors and routes of transmission, which has recently spread to Europe and mainly infects deer and cattle, but sheep can also be infected. It belongs to the family *Reoviridae*, genus *Orbivirus*, and 8 or more serotypes have been found. Due to the clinical presentation, bluetongue is a key differential diagnosis, along with foot-and-mouth disease (FMD) in deer and cattle.

Additional differential diagnoses in cattle are bovine viral diarrhoea (BVD), infectious bovine rhinotracheitis, vesicular stomatitis, malignant catarrhal fever, and bovine ephemeral fever (WOAH, 2019).

Updated information regarding EHD outbreaks can be found on GOV.UK.

Outbreaks of EHD have been confirmed in southern Europe, both in Sardinia and in Spain, for the first time. A case in the wild red deer in Sardinia is significant as the first case confirmed in wildlife, which could potentially behave as a reservoir of infection over time.

Deer may show the following signs – excessive salivation, fever, weakness, stiffness, lameness, inappetence, facial oedema, coronitis, stomatitis, hyperaemia of the conjunctivae and oral mucous membranes, oral ulcers on the dental pad, hard palate, or tongue, excessive bleeding, bloody diarrhoea, haematuria, and dehydration, or just have been found dead.

Bluetongue strains other than BTV3 in Europe

BTV-8 is currently circulating in France. A risk assessment for BTV-3 and BTV-8 can be found on GOV.UK.

Updates for other bluetongue strains can be found in this updated outbreak assessment for Bluetongue virus in Europe (GOV.UK).

Other useful links

- Comprehensive information and guidance related to bluetongue: Bluetongue Virus - Ruminant Health & Welfare (ruminanthw.org.uk)
- Topical issues: Imports, exports and EU trade of animals and animal products: topical issues (GOV.UK)
- Treatment considerations for BTV 3: Treatment considerations for bluetongue virus serotype-3 cases in sheep (wiley.com)
- Latest outbreak assessments: Animal diseases: international and UK monitoring
- How to spot and report bluetongue:
  - England – Bluetongue: how to spot and report the disease (GOV.UK)
  - Wales – Bluetongue (GOV.WALES)
  - Scotland – Bluetongue: how to spot and report the disease (GOV.SCOT)
- How to spot and report EHD (GOV.UK) (applies to England, Scotland and Wales)
- Veterinary Practice article on EHD and BTV
- Bluetongue imports requirements: Bluetongue requirements for imports or transits from the EU (GOV.UK)
- Bluetongue – the latest info and updates from the NFU (NFUonline)
- Bluetongue outbreak in the Netherlands (AHDB)

Publications of interest

- Salmonella in animals and feed in Great Britain (GOV.UK)
- APHA (2023) Disease surveillance in England and Wales, Veterinary Record:
  - Disease surveillance in England and Wales, January 2024 (wiley.com)
  - Disease surveillance in England and Wales, February 2024 (wiley.com)
  - Disease surveillance in England and Wales, March 2024 (wiley.com)
- Monthly APHA disease surveillance reports: APHA disease surveillance monthly reports (GOV.UK)
- APHA focus articles in the Veterinary Record: APHA focus articles in the Veterinary Record (GOV.UK)
- SCOPS podcasts on SCOPS principles, Practical options for performing wormer treatment checks, and Tackling sheep scab

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 works on behalf of the Scottish Government and Welsh Government.