



# The Scottish Government's Veterinary Services Programme

Supporting Animal Health and Welfare in Scotland

# 2023/24



Scottish Government  
Riaghaltas na h-Alba  
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# Programme Overview

The Scottish Government funded the Veterinary Advisory Services Programme to provide livestock disease surveillance, animal health planning and farm animal welfare support across Scotland during 2023/24. Animal disease surveillance is a statutory requirement and is provided by SRUC Veterinary Services through the collection and analysis of data from diagnostic samples and carcasses submitted to SRUC's Disease Surveillance Centres (DSCs) and through collection of intelligence from a wide network of contacts within Scotland and beyond. This programme monitors the current health and disease status of Scottish farmed livestock and enables changes in animal disease status to be detected quickly.

Veterinary practitioners and livestock farmers use this information to support the implementation of disease prevention measures across Scotland. Thus, a proactive approach to managing biosecurity, health and welfare in Scottish livestock is achieved; and all producers, irrespective of size of enterprise or geographical location, continue to have access to the relevant advice and information. Improving animal health and welfare increases the efficiency and resilience of Scotland's agricultural sector, which is vital not only for financial success, but also in relation to the drive to reduce greenhouse gas emissions.

The programme of development for outreach and knowledge exchange remains key to disseminating information gathered from the surveillance system to veterinary practitioners and livestock farmers. Currently the programme uses a blend of online and in person formats ensuring broad accessibility of the messages as well as gaining the benefits that in person contact provides. The presence of SRUC Veterinary Surveillance Hubs throughout Scotland supports close contact with local practices and enhances the ability of the team to get important information out to those practices and their clients quickly and effectively. Surveillance information is also disseminated via multiple channels including websites and social media as well as scientific reports and newsletters.





## Farm Animal Disease Surveillance Output

This publication outlines some of the work that has been undertaken by SRUC Veterinary Services and some of the conditions that have been recognised in the past year.

When a diagnosis is made, or a condition encountered, SRUC Vets consider its importance for the entire country. This requires consideration of the following questions:

- **Is this a new or unusual outbreak of disease?**
- **Is the disease notifiable?**
- **Does the disease outbreak require further investigation?**
- **Is there a risk to public health or the food chain?**

Disease and disease trends information compiled in Scotland is also provided for addition to that collected by APHA laboratories and approved contractors in England & Wales to provide the full picture for Great Britain. This can be accessed through the disease surveillance dashboards at [apha.defra.gov.uk/vet-gateway/surveillance/scanning/disease-dashboards.htm](https://apha.defra.gov.uk/vet-gateway/surveillance/scanning/disease-dashboards.htm). Monthly reports on SRUC Veterinary Services surveillance activities are also available on the SRUC website: [www.sruc.ac.uk/business-services/veterinary-laboratory-services/scottish-government-veterinary-services-programme/](https://www.sruc.ac.uk/business-services/veterinary-laboratory-services/scottish-government-veterinary-services-programme/).

## Surveillance for Anthelmintic Resistance

Throughout 2023–24 SRUC Veterinary Services worked with private veterinary surgeons and their farmer clients to encourage appropriate use of anthelmintics, the medications used to treat infections with worms. As with antibiotics, there is a concern that resistance to these products will mean that they are no longer effective and therefore it will become increasingly difficult to treat production limiting worm burdens.

SRUC vets have been encouraging farmers to make use of funding available through the 'Preparing for Sustainable Farming' initiative. This has offered farmers up to £1,250 over two years for undertaking Animal Health and Welfare Interventions, four of which are related to parasitic disease. This funding is available to help farmers carry out appropriate testing to determine if anthelmintic treatment is needed, and if used whether it is working as expected.

SRUC Veterinary Services has provided information to vets giving guidance on the best sampling strategies, helped with farmer meetings to promote best practice, and carried out diagnostic testing with advice on the results. In addition, SRUC Veterinary Services has provided training to veterinary practices to carry out parasitology tests in-house.

High worm burdens were found in many of the lamb carcasses received for postmortem examination in autumn 2023. *Teladorsagia* species predominated with *Nematodirus battus* making a contribution in some cases. Over recent years there has also been an increase in diagnoses of *Haemonchus*, a blood sucking parasitic worm of sheep that until recently had only been considered to be an issue in the southern parts of England. Over the past ten years, SRUC Veterinary Services has made a total of 46 diagnoses of haemonchosis on Scottish holdings with all veterinary hubs seeing at least one case. Although the number of cases remains small, 46% of these diagnoses have been made in the past three years and there is a general upward trend on a yearly basis.

In recent years SRUC Veterinary Services has also been working with vets in practice to investigate concerns of an apparent lack of efficacy to treat lungworm infections in cattle. These cases are challenging because it is difficult to determine whether the lack of efficacy is due to anthelmintic resistance, errors in administration, or apparent treatment failure due to other respiratory pathology. Together with Moredun Research Institute and APHA, SRUC Veterinary Services co-organised a



Lungworms in the airways of a bovine.

Veterinary Medicines Directorate (VMD) funded industry workshop on behalf of the Control of Worms Sustainably (COWS) group to discuss this topic. It was recognised that taking a standardised approach to assessing wormer efficacy would help understand these issues. Guidance has therefore been devised and a survey launched to find out more about lungworm in cattle and its treatment across the UK. Through the survey, COWS hopes to learn more about when outbreaks of lungworm are occurring, what class of stock is most affected, what clinical signs are seen, and how well they respond to treatment.

## Increased Surveillance for Vector-borne Disease

Following confirmed cases of Schmallenberg (SBV) and Bluetongue (BTV) in England and Wales in 2023–24, SRUC Veterinary Services raised awareness with private veterinary surgeons of the possibility of incursion of these diseases into Scottish herds and flocks. If the viruses were present in the circulating midge population in Scotland in autumn 2023, the consequences of infection would be most likely to be seen during lambing and calving in spring 2024.



Both viruses can result in calves and lambs born with malformations, and therefore SRUC Veterinary Services highlighted to private vets what to look out for and reminded them that BTV is a notifiable disease therefore any suspicion must be reported to APHA. BTV typically can cause holes in the brains of lamb and calf foetuses, therefore guidance was given to vets carrying out postmortem examinations on how to examine carcasses to check for this.

With SBV, flexion of the limbs in a fused fixed position, known as arthrogryposis, can be a sign of infection. Both of these types of malformations can be caused for other reasons therefore guidance was given to vets in practice on the best samples to take to achieve a diagnosis.

To date no cases of BTV have been detected in Scotland. Although no cases of congenital malformation have been confirmed in 2023–24 due to SBV, small numbers of blood samples from homebred animals on Scottish holdings have tested positive for antibodies to SBV, indicating limited exposure to the virus, but this exposure may have been from previous years.

# Antimicrobial Resistance in Healthy Livestock

The monitoring of antimicrobial resistance in the bacteria that inhabit the intestinal tract of healthy farm animals at slaughter, provides a means to assess the potential risk posed generally to humans and animals. This is because the food chain, from farm to fork, is recognised as an important contributor to the global threat of antimicrobial resistance.

During 2023, for the seventh successive year, SRUC Veterinary Services has worked with enteric samples collected by Food Standards Scotland to monitor antimicrobial resistance in *Escherichia coli* from cattle, sheep, pigs and poultry sampled upon presentation at abattoirs in Scotland. One *E. coli* isolate per animal sampled was tested for antimicrobial sensitivity against 12 antibiotics that include compounds deemed critically important to human health (CIA) as categorised by the European Medicines Agency: [www.ema.europa.eu/en/documents/report/categorisation-antibiotics-european-union-answer-request-european-commission-updating-scientific\\_en.pdf](http://www.ema.europa.eu/en/documents/report/categorisation-antibiotics-european-union-answer-request-european-commission-updating-scientific_en.pdf)

During 2023, levels of non-sensitivity to the antibiotics tested, remained generally low for cattle and sheep, with percentages in single figures or absent altogether for each of the antibiotics tested. In contrast, the annual levels of non-sensitivity to several antibiotics for pigs and poultry have been consistently higher than has been seen in ruminants during each of the seven years of study.

Pigs continued to provide the highest levels of non-sensitivity to chloramphenicol, however, percentage figures remained in single figures for the third consecutive year. Four antibiotics continued to exhibit non-sensitivity in double figures from pigs, however, three of these had their lowest results in 2023: tetracycline (28%), trimethoprim (16%) and sulphamethoxazole (15%), maintaining a gradual year-on-year reduction since 2018, while ampicillin (19%) remained within the range of results obtained over the period of study. For poultry, non-sensitivity to the same four antibiotics were in double figures, but so too was amoxicillin-clavulanic acid (16%).

The increase in non-sensitivity to ciprofloxacin from 2022, was reversed in 2023 with only 3.9% of isolates non-sensitive. Amongst the other livestock hosts, non-sensitivity to ciprofloxacin was only recorded for a single sheep and a single pig sample. The only non-sensitivity to 3rd generation cephalosporins was from a single poultry animal.

All *E. coli* isolates have been cryo-preserved and are available for further study. More detailed results will be published in the 2023 Scottish One Health and Antimicrobial Resistance (SONAAR) report, later in 2024.

# 1HEALTH



This project exemplifies 'One Health' with SRUC Veterinary Services working alongside Food Standards Scotland and professionals at ARHAI and Health Protection Scotland in design and execution.

# Field Guide to Lamb Predation

Badgers, foxes, and birds have all been implicated in killing and eating lambs (predation) on sheep farms in Scotland. Differentiating between livestock predation and scavenging, and identifying the species responsible, is essential for livestock managers to effectively manage risks and reduce losses.



SRUC vets were previously involved in a Scottish Government funded, SASA led, study examining lambs thought to have been scavenged or predated on Scottish farms. The damage inflicted was recorded and samples were collected for DNA analysis. Analysis of the findings indicated that foxes, not badgers, were responsible for both the scavenging and predation of the lambs and highlighted the different features of scavenging and predation that can be used to distinguish between the two. These findings were published in full by NatureScot [Report 1345: Investigating the role of badgers in lamb predation](#).



A short user-friendly 'Field Guide to Lamb Predation' was produced and distributed to sheep farmers through NFU Scotland in time for the lambing season. This is available on the NFUS website: [Lamb predation](#)

## Dairy Beef Calf Campaign

Since the advent of the UK Dairy Calf Welfare Strategy, beef from the dairy herd or so called 'dairy beef' is now a significant source of product to the UK market with the combined use of artificial insemination with beef sires and sexed semen for dairy sires the norm.

In Scotland the beef sucker industry still dominates, however dairy farmers are now also beef farmers. Many of the beef calves bred on dairy farms in Scotland are finished in England, but increasingly sheep and beef farmers in Scotland are looking to rear dairy bred calves, utilising spare shed space, particularly in the summer months.



## Dairy Beef Calf Systems: Managing Nutrition and Infectious Disease

Hear from our experts as we discuss key nutritional and health planning considerations for rearing beef calves out of the dairy herd up to (and around) weaning.

Join us online on  
Wed 12 July from 7.30pm to 8.30pm.



Dairy calves in their first month of life are vulnerable as they have been transported and mixed, and this advisory campaign looked at the key health and management challenges for such calves and how best to mitigate them. Specific focus was made of feeding management along with colleagues from SAC Consulting and specifically biosecurity around key pathogens such as *Salmonella* Dubin and *Mycoplasma bovis*, common in the dairy herds but less so on beef and sheep units.

The welfare campaign included CPD webinars for both vets and farmers, an information note and a face-to-face farmer meeting with one producer group in the Borders.

## Support for Scottish Smallholders

Several topical events were held this year, including two events in conjunction with veterinary practices and several written communications to veterinary practices and smallholder organisations to publicise the Scottish Government's Preparing for Sustainable Farming scheme, for which smallholders are eligible. The information on the potential animal health and welfare benefits of this scheme, which is open to keepers regardless of numbers of livestock kept or acreage/location of holding, was warmly received by farmers, crofters and smallholders.

Avian influenza and poultry disease prevention remained pressing topics due to the presence of "bird flu" in the wild bird population, and outbreaks in poultry. Two national webinars on responsible small-scale poultry keeping were provided through our online platform, and an in-person meeting was held on the Isle of Lewis for crofters and smallholders with poultry.

The Scottish Smallholder Festival was held in October 2023 in a new, much larger venue – the Highland Hall at the Royal Highland Centre in Ingliston. SRUC Veterinary Services provided advice, several talks and practical demonstrations including 'MOT' sessions to show owners how best to evaluate their animals' health and welfare.

A Sheep MOT, Goat MOT, and Pig MOT were held, along with other talks on feeding, forage, and equipment in the new SRUC Theatre space. Behind the SRUC Theatre, a project in conjunction with the University of Glasgow enabled hands-on practical calving training for pre-booked groups of cattle keepers.

The sessions were very popular and were quickly booked out. The successful expansion of the festival into a larger space allowed a greater range of educational talks and hands-on training to be provided this year, and it is intended that this will be repeated at the 2024 Festival.



# Health Planning

Livestock health planning is recognised as an effective tool to improve health, welfare, and productivity. The collaboration between the farmer, their vet and other professional advisers during that process is pivotal and promotes best practice. It also increases knowledge on the farm and improves productivity while safeguarding animal health and welfare.

SRUC Veterinary Services aims to facilitate this health planning process through the development of HerdPlan a new health planning web-app that will make health planning more dynamic, quicker, and easier for everybody involved.

Throughout 2023 the development of HerdPlan has continued with support from the Health Planning Stakeholder Group comprising members from industry, Government bodies, farm assurance schemes, academia, research, vet schools, private vet practices, farming industry, SRUC and SAC Consulting. The beta-testing phase of the HerdPlan commenced in October 2023 with 65 users being onboarded. The feedback provided was very useful and has helped to prioritise further developments.



The main purpose of this web-app is to enable farmers to create their farm team, including their farm staff, vet, nutritionist, and other advisers, and to work together dynamically on beef/sheep health planning. The web-app is designed to fulfil assurance schemes requirements (QMS, red tractor etc) and will also encourage proactive health planning by the farm team, helping them to respond to new risks throughout the production year.

Two CPD webinars, attended by over 70 vets, were delivered to demonstrate the journey of three farm animal vets trialling this proactive health planning approach.

There are currently two free health planning services for farmers, vets, and professional advisers in Scotland. For registration or further information visit <https://www.sahps.co.uk/>.

# Continual Professional Development (CPD) for Scottish Vets



SRUC Veterinary Services recognises the importance of providing up-to-date information on biosecurity, disease prevention, control, and disease investigation. For this reason, twenty-five CPD activities have been delivered throughout the year. These have included courses, bitesize events, live webinars, recorded talks, and podcasts.

Four CPD courses were held focusing on infectious diseases of cattle their prevention and control, training vets and their vet practice team to perform livestock parasitological techniques and improving health risk management through health planning for beef herds.

Twelve live CPD webinars and six podcasts covering various topics on beef, dairy, sheep, and poultry were also delivered. These included sheep lameness, dairy nutrition, colostrum management,



animal health risk management and updates on various diseases with guidance on biosecurity. Three bitesize CPD events were held in Dumfries & Galloway and South Ayrshire. Two focused on the profitability of the herd and how it can be improved through better colostrum management, and one focussed on bovine tuberculosis. All CPD events provided the opportunity for vet attendees to discuss specifics with experts in the field and to learn from each other's experiences.



These CPD events were well received and attended by a total of over 700 Scottish vets. The live and recorded talks can be accessed via the [Online CPD Academy | SRUC](#), webinars and podcasts via the [SRUC | Podcast](#), supporting outreach and knowledge transfer to practitioners working in the remoter areas of Scotland.

*The range of topics covered at events included:*

**Q-fever**

**Bovine-TB**

**Diagnostics**

**Beef health planning**

**Sheep lameness**



**Colostrum management**

**Milk drop syndrome**

**Diseases of backyard poultry and gamebirds**

**Dairy, Beef and Sheep nutrition**

# Honeybee Health

Honeybees are important to the environment as they contribute to the pollination of essential food, crops, plants, and trees. Although honeybees are not endangered, they do have many issues that threaten their health such as the mite *Varroa destructor*, notifiable diseases such as European Foulbrood (EFB), American Foulbrood (AFB) and threats from pests such as the Asian Hornet. Beekeepers need to be aware of these issues and need to prevent or control these diseases and pests in order to keep their bees healthy.

SRUC Veterinary Services supports individual hobbyist beekeepers, local associations, groups, and commercial beekeepers by advising on pests and diseases and promoting good standards of husbandry. SRUC is part of the Scottish Government Honeybee Health Team and the Bee Health Improvement Partnership. SRUC has a key role in training and mentoring bee inspectors and has advised on the 10-year Honeybee Health Strategy to the Scottish Government HoneyBee Health policy team.

Recently SRUC worked in partnership with the Scottish Beekeepers Association, the Scottish Government bee health policy and delivery teams, and SASA to provide a learning package on Varroa for beekeepers in Scotland. Many thanks go to the volunteers and experts from the beekeeping community who assisted with this project. This will be shared with beekeeping associations and promoted on social media. It will also be uploaded to the Scottish section of Bee Base.

The Varroa mite weakens honeybees leaving colonies susceptible to the development of other diseases such as deformed wing virus and parasitic mite syndrome, this happens through the transmission of viruses and other pathogens.



The Varroa parasitic mite is found in hives across most of the UK however there are some small remote isolated pockets where it has not yet taken up home. It is important beekeepers and those who sell bees are aware, so they don't inadvertently take bees with varroa to these places. SRUC has promoted the varroa map produced by SASA which shows where varroa has been reported and where it has not.

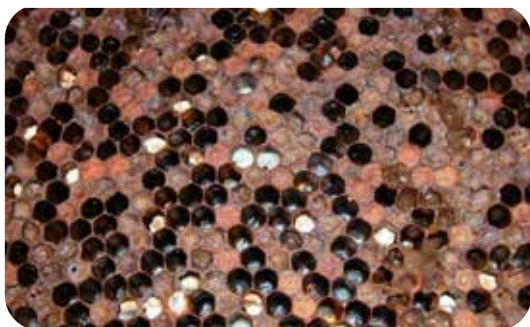


The SRUC bee advisor also works with the Scottish Government on the control strategy of the two notifiable Honeybees diseases: American Foulbrood (AFB) and European Foulbrood (EFB), providing direct advice to local beekeepers and support to the bee inspectors during inspections. Cases of EFB and AFB increased in 2023 with new outbreaks in two areas which were previously clear. Suspicion of notifiable diseases such as American Foul Brood and European Foul Brood should be reported to the Scottish Government bee inspectors via [bees\\_mailbox@gov.scot](mailto:bees_mailbox@gov.scot).

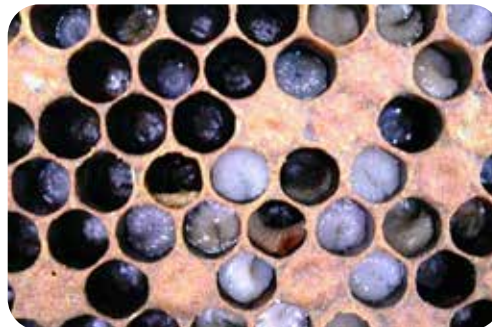


*Varroa parasitic mite*

Frame infected with American Foul Brood



Frame infected with European Foul Brood



SRUC was involved in helping Scottish Government bee inspectors in the Lothian area deal with a new outbreak of notifiable disease. This involved accompanying bee inspectors at surveillance inspections of beekeepers within 3km of the outbreak to support beekeepers, as well as co-ordinating and delivering presentations to the local beekeeping associations around the outbreak in conjunction with the bee inspectorate to provide advice on notifiable disease recognition and biosecurity.





SRUC delivered its first talk on the Asian Hornet, an emerging threat for honeybees, which has in recent years caused significant problems in Europe and spread to Jersey and southern England. Training and education are underway for bee inspectors, beekeepers, and the general public.

The Asian hornet predaes on pollinators including honeybees and can destroy a whole hive. An Asian Hornet contingency plan is being produced to provide advice on tracking and tracing hornets so the nests can be destroyed. Details on the appearance of an Asian hornet can be found on [Bee Base Guide](#) or the non-native species identification guide. No one should kill the hornets or attempt to get rid of nests as they are dangerous, and it is important to find the nest to prevent spread. The Asian Hornet Watch app is available to download from the [Apple](#) and [Android](#) app stores. Members of the public can also report sightings by email to <mailto:alertnonnative@ceh.ac.uk> with a photo or on the Non-native Species Secretariat website. The Great Britain Non-native Species Secretariat is a joint venture between Defra, the Scottish Government and the Welsh Government to tackle the threat of invasive species. More information can be found on their website <http://www.nonnativespecies.org/home/index.cfm>.



Further advice was provided with the production of a podcast on [Beekeeping in the Summer](#) which focussed on the issue of swarming. This podcast talks about the reasons for swarming and what to do if you see a swarm.



Useful links are as follows:

- [www.gov.scot/publications/honey-bee-health-strategy-2022-2032/](http://www.gov.scot/publications/honey-bee-health-strategy-2022-2032/)
- [www.gov.scot/publications/scotlands-honey-bee-health-strategy-implementation-plan/](http://www.gov.scot/publications/scotlands-honey-bee-health-strategy-implementation-plan/)
- [www.nationalbeeunit.com/](http://www.nationalbeeunit.com/)
- [Bees\\_mailbox@gov.scot](mailto:Bees_mailbox@gov.scot)
- [www.sasa.gov.uk/](http://www.sasa.gov.uk/)
- [www.nationalbeeunit.com/diseases-and-pests/asian-hornet/](http://www.nationalbeeunit.com/diseases-and-pests/asian-hornet/)
- [scottishbeekeepers.org.uk/](http://scottishbeekeepers.org.uk/)
- SRUC Bee advisor [Lorraine.Johnston@sruc.ac.uk](mailto:Lorraine.Johnston@sruc.ac.uk)



## Disease Surveillance in Wild Birds

**SRUC Veterinary Services carry out a significant number of postmortem examinations of wild birds each year providing both disease surveillance information and supporting investigations into crime. This includes pesticide poisoning cases where deliberate poisoning of raptors is suspected.**

Since the winter of 2021–22, sampling of target species of wild birds has formed the large part of the wild bird investigations carried out by SRUC Veterinary Services. The main purpose of the surveillance is to inform the assessment of risk of Highly Pathogenic Avian Influenza (HPAI) to the poultry population and the submissions have also reflected the impact of HPAI infection in the wild bird population.

High mortality in wild in geese along the Solway was seen in autumn and winter 2021 –22 followed by a mass die off event in seabirds on the east coast in the spring and summer of 2022. The gannet population on Bass Rock was particularly badly affected with the concentration of infected birds in a small area thought to be significant in increasing levels of infection and mortality among the nesting birds. This represented a further shift away from the previous pattern where infection returned with migratory birds in the autumn and detections of virus in the wild bird population decreased over the summer months.

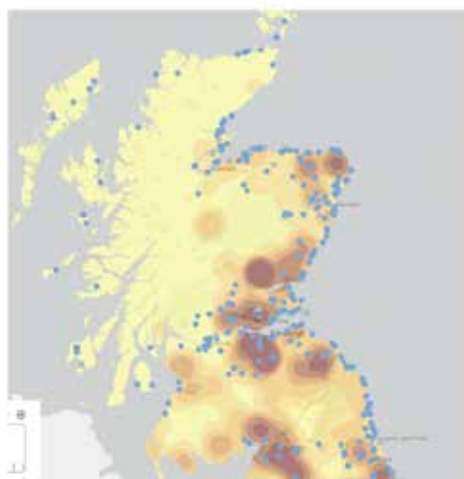
Summer 2023 again saw significant die offs in some seabird species including Guillemots and Razorbills. HPAI was not the sole cause of mortality in these die offs and climate change affecting food supply for the birds may also be having an impact.

HPAI was detected in samples submitted by SRUC to the testing laboratory at APHA Weybridge from over 200 birds since April 2023 compared with 370 cases the previous year. Detection has decreased in Scotland and elsewhere across Great Britain with the current risk to poultry now downgraded to 'Low'. Details of cases on avian influenza in Great Britain can be found on the UK Government website: [www.gov.uk/government/publications/avian-influenza-in-wild-birds](http://www.gov.uk/government/publications/avian-influenza-in-wild-birds)

As well as potential HPAI infection, samples can be tested for West Nile Virus (WNV). WNV has not been seen in the United Kingdom but surveillance is important as disease occurs in humans and horses as well as birds. Wild birds act as a reservoir of infection and the mosquito which transmits the virus to other animals has an increasing range which now includes the parts of south of England.

Examination of wild birds also allows potential emerging diseases or changes in disease patterns to be identified and SRUC Veterinary Services contributes to worldwide wildlife disease surveillance through the World Organisation for Animal Health.

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# Wild Bird Crime

Postmortem examinations are an essential element of the investigation of suspected crime including poisoning involving wild birds, and a significant number of wild birds examined are submitted because crime is suspected. SRUC Veterinary Services can identify other causes of death or evidence consistent with poisoning. If poisoning is suspected tissue samples are taken for analysis. Where deliberate poisoning is suspected evidence from these examinations and analyses are used by Police Scotland to support their investigations and potential prosecutions. Tissues taken from birds dying from other causes are also used to check background levels of pesticides in the population and to monitor unintended effects of legal pesticide use. Submissions for investigation of suspected crime continued at levels seen in previous years however in some cases investigations have been limited due to risks associated with HPAI positive tissues limiting further testing that can be carried out.



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