

The Scottish Government's Veterinary Services Programme

2019/20

Supporting Animal Health and Welfare in Scotland





Livestock disease surveillance; animal health planning and support for farm animal welfare across Scotland was supported by the Scottish Government during 2019/20 through the funding of the Veterinary Services Programme. Animal disease surveillance is a statutory requirement and is provided by SRUC through the collection of data from diagnostic samples and carcasses submitted to Scotland's Disease Surveillance Centres (DSCs). The current health and disease status of Scottish farmed livestock is monitored through this programme. This enables changes in animal disease status to be detected quickly and information disseminated effectively to a range of stakeholders using multiple media platforms from websites and social media, to scientific reports and newsletters.

This information is used by veterinary practitioners and livestock farmers to support the implementation of disease prevention measures across Scotland. This ensures a proactive approach to biosecurity, health and welfare in Scottish livestock; 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 competitiveness and sustainability of Scotland's agricultural sector.

In the course of this reporting year SRUC Veterinary Services has re-designed the surveillance delivery network to achieve operating efficiencies and to develop new ways of providing farm animal disease surveillance intelligence. The number of postmortem centres has been reduced from eight to four and veterinary investigation officers have been maintained in surveillance hubs at the sites of closure. Almost all diagnostic tests are now carried out at SRUC Veterinary Services, Veterinary and Analytical Laboratory within the Pentland Science Park near Penicuik in Midlothian. The surveillance network has been further reinforced by partnering with the University of Glasgow's School of Veterinary Medicine to provide another postmortem room for surveillance on their Garscube Campus. These changes were completed in March 2020. SRUC Veterinary Services also partners with the Moredun Research Institute, which provides specialist diagnostic virology testing and advice and neurohistopathology input to the surveillance programme.

Farm Animal Disease Surveillance

The current health and disease status of farmed livestock across Scotland and changes in animal disease occurrence are monitored by this programme. Some of the work that is being undertaken and some of the conditions recognised in the past year are summarised in this section.

SRUC Vets review the importance of any diagnosis made or condition encountered 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?

Information collected by SRUC Veterinary Services on disease and disease trends in Scotland is also added to data from APHA laboratories and approved contractors in England and Wales to provide the picture for Great Britain that can be accessed through the disease surveillance dashboards at

http://apha.defra.gov.uk/vet-gateway/surveillance/scanning/disease-dashboards.htm. Monthly reports on SRUC Veterinary Services surveillance activities are available on the SRUC website. https://www.sruc.ac.uk/downloads/120613/monthly_reports



During 2019/2020 SRUC Veterinary Services restructured and postmortem rooms closed for farm animals in Ayr, Edinburgh, Inverness and Perth. As part of this change there has been a drive to engage with farm animal veterinary practices to ensure delivery of surveillance across the whole of Scotland.

Ahead of Inverness Disease Surveillance Centre ceasing postmortem examinations in May 2019, training was put in place for veterinary practitioners to enable them to carry out on-farm postmortem investigations and to continue to feed into the farm animal disease surveillance system. Practices in the area work in different ways and therefore options for training were made available that included postmortem demonstrations and training sessions at Inverness DSC, continued support for postmortem examinations in person, and support



by phone or email. In addition, regular contact with the vet practices was necessary to ensure the message relating to the change in delivery was received.

Using the experience gained in Inverness, the Perth and Ayr DSCs also planned their communication and training ahead of the postmortem rooms closure in January 2020. Prior to the centres closing, the opportunity was taken to use the facilities to host training events for practice vets in the local area. Three sessions were held at both locations and one at a fallen stock centre. Fifty-four vets attended and feedback was very positive. A further postmortem training day was delivered on a farm in Argyll for seven vets from four different practices. A programme of practice visits has commenced, with nine visited to date, to ensure the new arrangements are understood and to offer bespoke continuous professional development (CPD) sessions. Regional delivery of webinars has also begun with practitioners commenting that these are a good way to access up to date information on disease investigation and surveillance.

Going forward regular contact with practices will ensure their requirements are understood. Outreach delivery is not a 'one size fits all' model as it has to fit the needs of the practitioners and to accommodate specific surveillance messages that need to be communicated. It is important for SRUC to maintain disease surveillance points of contact across Scotland, both in areas that are maintaining their postmortem facilities, and in areas where this function no longer exists. SRUC continues to participate in 'one to many' knowledge transfer sessions to farmers when requested by veterinary practices or industry bodies.

In 2019/20 2218 carcases of farmed animals were received for postmortem examination, these were mostly cattle and sheep but also included pigs goats, deer, poultry and gamebirds. Furthermore a wide range of diagnostic testing was performed on 6,746 submissions received from veterinary surgeons in Scotland, most of these submissions included multiple blood or faeces samples, swabs and other materials. Test results helped to inform treatment choices for sick animals, screen for endemic diseases in apparently healthy animals and monitor parasite burdens in livestock to avoid unnecessary routine treatments. SRUC vets investigated novel or unusual presentations of disease across Scotland, including rickets in lambs in south west Scotland; mortalities in a dairy herd due to *Salmonella enterica* serovar Mbandaka (S Mbandaka) and ear tip dermatitis and necrosis in pigs.

During the year a significant transformation has been undertaken through the centralisation of laboratory services and the closure of four post mortems rooms. This was effectively completed by March 2020 and contributed to a 26% reduction of last year's carcase submissions. The examination of samples submitted by veterinary surgeons in practice fell by 9%. These reductions were within the limits expected.

On-farm Postmortem Examination

Following the closure of four of the postmortem rooms some farmers have chosen to travel to one of the remaining postmortem centres, but others have opted for on-farm postmortems carried out by their own vet and supported by SRUC Veterinary Services.

Livestock vets were initially concerned about undertaking postmortems in terms of the costs involved, effective time use and reliability in reaching a diagnosis. To help address these concerns vets were offered support both in the form of familiarisation training sessions, and sampling kits. Telephone advice and personal assistance is also available to vets when undertaking a postmortem at their surgeries or on-farm.

There are challenges associated with undertaking a postmortem on farm, but there are also benefits. While getting an instant result is a bonus rather than the norm; it is possible to quickly rule out certain conditions and avoid unnecessary treatments of cohort animals. Farmers are typically pleasantly surprised how cleanly an examination can be done and many find it interesting to watch and gain insight into common conditions like navel ill and pneumonia. Postmortem examinations are clearly not the answer for every animal loss on farm but, where they can be done safely and promptly, there is a good case to undertake them.

Experience has shown that discussing a case before the examination is undertaken, and using SRUC vets to guide further investigations, results in a diagnostic success rate of over 80%. Therefore, where animals die unexpectedly and a fresh carcase is available it is well worth an animal keeper getting in touch with their vet who, in turn, is supported by SRUC vets.

Pre-Weaning Mortality in Dairy Herds

Pre-weaning calf mortality is an important indicator of animal welfare in a dairy herd and has a significant impact on the profitability of the affected unit. While information on the range of pre-weaning mortality rates across different countries and farms has been published, there is little known about the specific causes of mortality. Increased understanding and information would enable targeted control measures to be put in place to reduce losses.

SRUC Veterinary Services has undertaken a review of all diagnostic carcase and viscera submissions received between 2014 and 2018 to provide information on the major causes of mortality in pre-weaned calves in Scottish dairy herds.

A total of 614 submissions were analysed, and a definitive diagnosis was reached in 603 (98%), highlighting the value of a quality assured postmortem examination. A total of 1017 diagnoses were made from the 614 calves. Infectious disease was responsible for 69%. Nutritional problems accounted for a further 25%, and the final 6% represented individual calf issues.

The five most common causes of mortality were cryptosporidia, rumen drinking as an indicator of underlying nutritional management deficiencies, rotavirus, salmonellosis due to *Salmonella enterica* serovar Dublin (S. Dublin) and colisepticaemia. Pneumonias made up approximately 21% of the diagnoses, and *Mycoplasma bovis* was the most common infection identified in pneumonia related deaths. Enteric pathogens resulting in diarrhoea made up 34% of the diagnoses, with cryptosporidia the most frequently diagnosed.

It was considered that a nutritional component had played a role in the death of 26% of calves, with rumen drinking accounting for the majority. Cases of suspected underfeeding were not included in this total as feeding volumes were not known for all calves.

The feeding history of calves with rumen drinking was compared to that of control calves that had died of non-nutritional causes, where the feeding method was not considered to have impacted on the cause of death. Examining the histories of these animals identified that rumen drinkers were more likely to be fed from an open bucket rather than being teat fed; more likely to be fed a low volume of milk and more likely to be fed waste milk. This illustrates that there are management changes which can be made to reduce mortality associated with nutritional causes.



Postmortem examinations therefore made a valuable contribution when building up a comprehensive picture of calf health. The fact that 26% of deaths had a significant

nutritional component demonstrates the importance of feeding management in ensuring the health and welfare of dairy calves.



Rickets in Sheep

SRUC Veterinary Services, with assistance from the University of Edinburgh, Royal Dick School of Veterinary Studies has been involved in an investigation of rickets in sheep. In spring 2019 several flocks in South West Scotland had reported swollen and stiff joints, lameness and some angular limb deformities in growing hoggs. This was not only a welfare concern but impaired the value of the affected animals as breeding replacements. A diagnosis of rickets was made from carcases submitted for postmortem examination.

Rickets is a developmental abnormality of bone and is due to insufficient vitamin D intake. Sheep can obtain vitamin D by exposure to UV light (sunlight) or supplementary feeding. A common feature of the affected flocks was that hoggs had been moved from hill ground to lowland ground for the winter period. During this period the hoggs were grazing on improved pasture which promotes rapid growth rates but at a time when there is limited exposure to sunlight. In the absence of supplementary feeding, this leaves these animals at risk of developing rickets. Breeds with pigmented skin as oppose to white face breeds appear to be more susceptible, however further research in this area is required.

Following the diagnosis at postmortem, ten lambs from the same group were sampled for 25 hydroxyvitamin D (25(OH)D), the metabolite widely used to assess

vitamin D status, and all were found to be low when compared to adults of the same breed. Blood samples were also collected from hoggs from a further four affected flocks with similar results.

Vitamin D supplements are available but there is limited information on their use and efficacy. Future work is planned to learn more about rickets in sheep and the best management practices to minimise the impact of this condition on the welfare and productivity of the growing sheep.

Antimicrobial Resistance in Healthy Livestock

The food chain, from farm to fork, is recognised as an important contributor to the global threat of antimicrobial resistance. From August 2019 to February 2020, Food Standards Scotland provided enteric samples from healthy cattle, sheep, pigs and poultry, presenting at abattoirs in Scotland. This was the third successive year of this study providing ongoing monitoring of background antimicrobial resistance levels in healthy Scottish livestock. One *Escherichia. coli (E. coli)* isolate per animal sampled was tested for antimicrobial sensitivity against the same 12 antibiotics for each year. The numbers of non-sensitive isolates for each host for each of the three years of the ongoing monitoring are shown in the table below.

Antibiotic	Cattle			Sheep			Pigs			Poultry		
	2017/18 N=340	2018/19 N=279	2019/20 N=271	2017/18 N=388	2018/19 N=320	2019/20 N=269	2017/18 N=167	2018/19 N=315	2019/20 N=276	2017/18 N=287	2018/19 N=192	2019/20 N=255
Cefotaxime	0	2(<1%)	0	0	0	0	2(1%)	3(1%)	1(<1%)	0	0	0
Ertapenem	0	0	0	0	0	0	0	0	0	0	0	0
Gentamicin	1(<1%)	0	2(<1%)	1(<1%)	1(<1%)	0	0	0	1(<1%)	57(20%)	29(15%)	17(7%)
Piperacillin/tazobac- tam	ο	2(<1%)	1(<1%)	0	1(<1%)	0	ο	1(<1%)	1(<1%)	2(<1%)	0	1(<1%)
Ciprofloxacin	3(<1%)	0	0	3(<1%)	0	0	1(<1%)	1(<1%)	2(<1%)	6(2%)	11(6%)	6(2%)
Ceftazadime	0	2(<1%)	0	0	0	0	2(1%)	2(<1%)	1(<1%)	0	0	0
Ampicillin	5(1%)	10(4%)	13(5%)	9(2%)	9(3%)	3(1%)	30(18%)	61(19%)	58(21%)	183 (63%)	96(50%)	138(54%)
Trimethoprim	1(<1%)	4(1%)	7(3%)	5(1%)	2(<1%)	3(1%)	49(29%)	118(36%)	85(31%)	113 (39%)	76(40%)	122(48%)
Tetracycline	11(3%)	32(12%)	30(11%)	15(4%)	12(4%)	9(3%)	80(48%)	140(44%)	137(50%)	129 (45%)	76(40%)	94(37%)
Amoxicillin/ clavulanic acid	3(<1%)	9(3%)	3(1%)	9(2%)	7(2%)	0	19(11%)	49(16%)	10(4%)	59 (21%)	72(38%)	30(12%)
Sulphamethoxazole trimethoprim	1(<1%)	4(1%)	7(3%)	5(1%)	2(<1%)	0	45(27%)	113(36%)	76(28%)	110(38%)	76(40%)	121(48%)
Chloramphenicol	5(1%)	9(3%)	11(4%)	1(<1%)	3(1%)	0	38(23%)	65(21%)	42(15%)	5 (2%)	5 (3%)	6(2%)

The number of isolates showing resistance to the antibiotics tested were generally low for cattle and sheep, although cattle have shown an increase in resistance to tetracycline during the last 2 two years. Pigs and poultry had higher numbers of isolates that were resistant to tetracycline in each year, although the number of isolates from pigs that were resistant to ampicillin was higher during every year. Among antibiotics deemed critically important, resistance was once again absent for ertapenem and there was a single *E. coli* from a pig which was non-sensitive to 3rd generation cephalosporins, while fluoroquinolone non-sensitivity remained low and was only detected in pigs and poultry. Poultry continued to have the highest numbers of non-sensitive isolates to gentamicin but a further reduction in numbers representing an overall drop from 21% to 7% over the three years was recorded; the higher level of non-sensitivity to chloramphenicol in pigs showed a more modest reduction over the same period.

This project exemplifies 'One Health' with SRUC Veterinary Services working alongside Food Standards Scotland and professionals at Health Protection Scotland in design and execution of this study. All isolates, since the start of the monitoring programme, have been cryo-preserved with some used for further study. The data allows for comparison



year-on-year and also with levels of resistance in the medical field. Results are included in the annual Scottish One Health and Antimicrobial Resistance (SONAAR) reports <u>https://www.hps.scot.nhs.uk/web-resources-container/scottish-one-health-antimicrobial-use-and-antimicrobial-resistance-in-2018/</u> and should also be useful to infer potential improvements in antimicrobial stewardship and animal husbandry in Scotland.

Salmonella Typhimurium Cluster in Cattle

The introduction of whole genome sequencing (WGS) for salmonella isolates in Scotland at the Scottish Salmonella, Shigella and C. difficile Reference Laboratory has allowed more detailed examination of the relationships between strains of salmonella and significantly improved the recognition of those involved in localised and national salmonella outbreaks.

Since 2014, *Salmonella enterica* serotype Typhimurium (S Typhimurium) has been recovered from 16 different cattle premises, within an area of South West Scotland. Detailed analysis of isolates from these farms by whole genome sequencing has revealed very closely related clusters of S Typhimurium on 14 of these farms, which are distinct from the strains on the other two farms and all S Typhimurium isolated from livestock in the rest of Scotland over the same period.

The strain is designated t5:3229 and there have also been two isolates from sheep confirmed by WGS from one of the farms. Five of the infected premises presented their first cases in the period since March 2019.

Altogether, there are five closely related sub-clusters of t5:3229, that have diverged from the initial cluster, which includes the earliest confirmed isolate from 2014. There have been three human t5:3229 isolates reported from Scotland, that cluster with the cattle strains; two during 2019 and another in 2017. The three human isolates all occurred in the south west of the country. In England in 2019, there has also been a related human t5:3229 isolate and another from tripe, which was intended for use in raw pet food.

Investigation of a few of the infected premises has recovered related t5:3229 isolates from animal groups and various environmental samples, but has not, thus far, established a link between infected farms. Investigations are ongoing and it is also intended that these will include WGS of some older isolates to determine when and where t5:3229 may have first emerged and to shed more light on paths of transmission between farms.

This study represents a further example of the multi-agency Scottish approach to investigations of zoonotic outbreaks.

Support for Scottish Smallholders

SRUC Veterinary Services provided a manned information stand at the Scottish Smallholder and Grower Festival 2019, this was, as always, an excellent event for animal keeper engagement and discussion. An 'Ask a Vet' service was available at the stand and literature on welfare and preventive health in livestock was available. A talk on biosecurity for smallholders covering the importance of biosecurity in preventing notifiable diseases as well as endemic problems was delivered to delegates. A practical demonstration was also provided to instruct new and inexperienced keepers in basic health examination and the detection of issues such as changes in body condition via condition scoring.

A goat health and welfare day was held in Aberdeenshire for both new and experienced keepers. This provided an update on legislation and also health conditions which goat keepers had cited as a particular issue recently. This event provided a forum for discussion; one concern that was raised by goat keepers was the consolidation of rural veterinary practices into larger organisations in locations sometimes further away from the small crofts and farms that need coverage.



Wildlife Crime

A regular annual activity is the contribution to the Wildlife Crime in Scotland report for the Scottish Government. SRUC undertakes postmortem and clinical pathology investigations for the Police and other bodies which are involved in investigating potential poisoning, both intentional and accidental, and welfare cases in which a protected animal is harmed intentionally. Data of all investigations and outcomes is collated and submitted to the Scottish Government for inclusion in the report each year.





Scottish Animal Health Planning System

As part of the Biosecurity, Animal Health and Welfare Advisory Activity the Scottish Animal Health Planning System (SAHPS) was created to support vets and farmers involved with flock and herd health planning.

The SAHPS allows the farmer to enter farm data into the webbased system including production data, treatments, disease incidents and the vet to analyse this data, to

identify risks and, in conjunction with the farmer, to set priorities and schedule actions to improve profits while safeguarding animal health and welfare (<u>https://www.sahps.co.uk/</u>).

An example of the farmer and vet collaboration during the herd health planning process, as described in the SAHPS, is shown below. During the health planning meeting, the vet and the farmer identified a problem with Johne's disease, as one animal in the herd was diagnosed with this infection. As this was the first



case of the disease diagnosed on the farm, the vet suggested the improved farm management test and cull strategy as a programme to monitor and control the disease. The rapid identification and cull of diseased animals in order to eliminate the source of the infection and prevent the spread of the disease in calves was set as a priority. Among the scheduled actions, the screening of all breeding stock of two years of age and older and appropriate biosecurity measures for Johne's disease control were put in place. All the actions agreed were recorded in the SAHPS system and are shown in the table below.

Johne's Herd Health Plan								
Testing programme	 All breeding stock of 2 years of age and older to be tested with blood samples. The vet specified the timing that the blood samples should be taken and the date was saved to the SAHPS calendar. The farmer and the vet were reminded by the SAHPS for this action prior to that date. All test positive animals to be housed in isolation and be culled as soon as possible. No calves born from positive tested dams to be retained as breeding replacements. 							
Biosecurity	 All bought in stock of 2 years of age and older to be maintained separate from any breeding or young stock and to be blood sampled to determine Johne's status prior to joining the herd. Only the negative tested bought in stock to be introduced to the herd. Animals to be purchased from herds with as low a risk rating for Johne's disease as possible (see CHeCS accredited at Risk Level 1) 							
Biocontainment	 Good hygiene in buildings, feeding equipment and calving pens, in particular. Note that the above hygiene management will minimise faecal contamination of food, water and pasture, and therefore, the spread of the disease. 							

The farmer has actioned the agreed plan, and no new cases of Johne's disease were diagnosed on the farm in the second year of the Johne's health plan implementation. The vet and the farmer have continued the Johne's test and cull management strategy in order to monitor and control the disease in the future.

The above case illustrates that through close collaboration between vets and farmers and with continual monitoring and analysis of data in the health planning process, the vet can intervene in time, implement the measures appropriate to the specific farm circumstances, and manage the prevention and/or containment and control of diseases.



Continual Professional Development (CPD) for Vets

As part of the Biosecurity, Animal Health and Welfare Advisory Activity, CPD courses, Bitesize CPD events and online CPD courses and talks have been designed and delivered to over 300 veterinary practitioners. These CPD events, which were held in various regions across Scotland, provided the up-to-date information for practising vets keeping them well informed about

key subjects. Online CPD courses and talks were produced to increase outreach and knowledge transfer to vets based in remote and rural areas. Throughout the year a range of topics have been covered.



Delegate feedback for these courses and talks has been very positive and they continue to be well-respected events.



Bee Health Awareness Day

In summer 2019 the Bee Health Improvement Team (BHIT) brought together the key industry stakeholders concerned with bee health in Scotland for 'The Bee Health Awareness Day'. A key aim of this event was to raise awareness and educate beekeepers on the fundamental importance of honey-bee health.

The BHIT is a collaboration between the main stakeholders in the beekeeping industry and includes the Scottish Government, Science and Advice for Scottish Agriculture (SASA), SRUC Veterinary Services, The Scottish Beekeepers Association (SBA), and the Bee Farmers Association (BFA). This partnership works towards achieving a healthy and sustainable population of honeybees to ensure effective pollination and honey production in Scotland. Representatives from each of these organisations meet up four times a year to discuss and plan strategies to supply and meet the needs of this vital industry. This partnership is also responsible for providing training for beekeepers, providing information at the Royal Highland Show and generating disease control plans. Furthermore, the SRUC Veterinary Services Beekeeping Advisor works closely with sector stakeholders to ensure that all advice provided is suitable and relevant to the needs of the industry.



'The Bee Health Awareness Day' consisted of two separate training days. The first one took place in May in Kelso and the other in June in Dunblane. In total seventy participants attended a full day of comprehensive lectures, practical demonstrations at beehives and hands on activities that focused on the identification of bee disease.

The day was praised for the way it supplied beekeepers with new knowledge, delivered through practical demonstrations and in the field. This enabled

participants to gain confidence in identifying pests and pathogen problems and foul brood disease within their own colonies. Participants are now able to inspect the health of their honeybees.





The presentation delivered by the SRUC Veterinary Services Beekeeping Advisor on 'Observing the Colony' was commended for its practical advice and demonstration. Overall feedback from the participants highlighted the value of such events.







"First class presentations, informative and practical."

"Very informative with useful examples of species, frames and equipment which was hugely beneficial. It was great."

> 'The Bee Health Awareness Day' achieved its objectives:

improving the health of honeybees

beekeepers are now more aware of the risk pathogens and pests present to their hives

0 Top Tips for Beekeepers

- Join a local beekeeping association
- Source local adapted honeybees
- 5 Know the purpose for a colony inspection on that day
- Light your smoker before inspection
- Ask yourself is the queen present know the signs
- Give the colony space when needed
- Look out for the signs of swarming
- Recognise healthy larvae and sealed brood
- Treat for varroa mite with VMD licensed product
- Register your Apiary on bee base



Disease Surveillance in Wild Birds

Each year a significant number of postmortem examinations of wild birds are undertaken by SRUC veterinary investigation officers. These provide both disease surveillance information and support investigations into crime; including pesticide poisoning cases where the deliberate poisoning of raptors is suspected.

As domestic poultry are at continued risk of infection with Avian Influenza (AI) from wild birds, postmortem examinations and sampling of target species forms part of the surveillance of the wild bird population. SRUC vets also undertake postmortem examinations and sampling in 'mortality events' where more than five birds of the same species are found in the same location at the same time.

As well as potential Al incursion these samples are tested for West Nile Virus (WNV). Although WNV has not been seen in the UK, 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 the south of England.

> The examination of wild birds also allows potential emerging diseases or changes in disease patterns to be identified; and by sharing this knowledge SRUC vets contribute to worldwide wildlife disease surveillance through the World Organisation for Animal Health (OIE).





Wild Bird Crime

Over half of the wild birds examined by SRUC vets are submitted because a crime is suspected, and postmortem examinations are an essential element of the investigation into suspected crime, including poisoning. SRUC vets can identify other causes of death or evidence consistent with poisoning; and if poisoning is suspected tissue samples are taken for analysis at SASA, a division of the Scottish Government Agriculture and Rural Delivery Directorate. Where deliberate poisoning is suspected evidence from these examinations and analyses is 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 any unintended effects of legal pesticide use.

Investigations into suspected wildlife crime can be complex and involve a wide range of organisations over months and sometimes years. Often wildlife crimes are committed over a series of years and a number of organisations are involved in the wider investigation and evidence gathering. SRUC vets work with a range of organisations to investigate wildlife crime, organisations including: SASA, Police Scotland, SGRPID, SSPCA, RSPB and SNH.









Supporting Animal Health and Welfare in Scotland



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