

SRUC VS Surveillance Activities

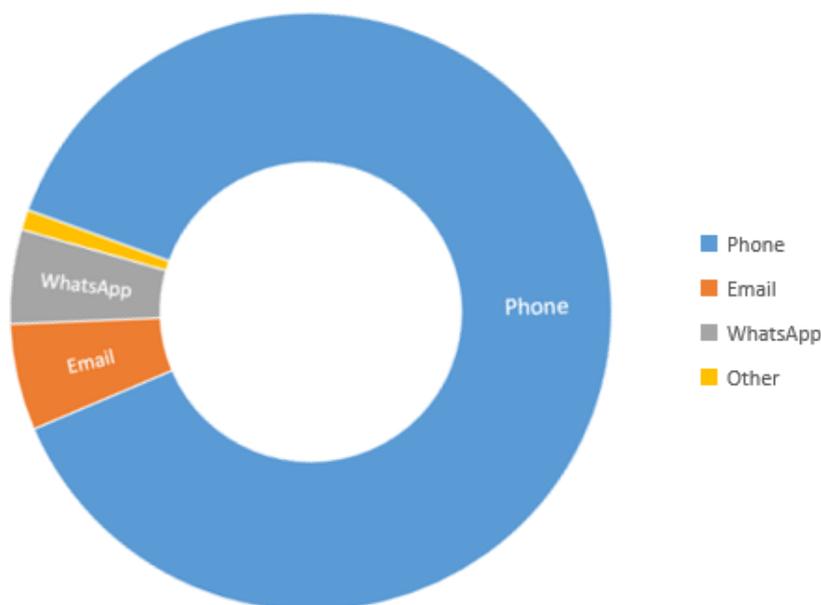
Quarterly Report – October to December 2020

SRUC Veterinary Services (VS) carries out a range of disease surveillance activities on behalf of Scottish Government. These include regular communications to veterinary practices on a range of animal health matters and responding to requests for expert advice and support in relation to disease investigations as well as provision of a necropsy and clinical pathology service.

VS run a Central Lab in Edinburgh, four PM Centres in Aberdeen, Dumfries, St. Boswells and Thurso as well as six Veterinary Surveillance Hubs (Hubs) in Aberdeen, Ayr, Dumfries, Inverness, Perth and St. Boswells. Hubs are staffed with two to four Veterinary Investigation Officers who oversee surveillance activities in their respective catchment area.

Stakeholder contact and outreach

From 1st October to 31st December 2020 SRUC VS recorded 459 contacts with 43 Scottish vet practices. Queries related to the main livestock species and native wildlife. They may or may not have been associated with a submission to the laboratory system. For context, over the same period we received samples from 95 Scottish vet practices. See Appendix 1 for the geographic distribution of vet practices that use our diagnostic service on a regular basis. A breakdown of how vet practices contacted us is shown below. While telephone calls are responsible for the vast majority of contacts SRUC VS are keen to explore alternative communication routes and encourage suggestions and feedback on how communications can be improved.



Most requests (371 of 459) involved support with disease investigations. Of the 222 bovine disease investigations discussed with practitioners, more than half concerned respiratory and enteric diseases as well as abortions. For sheep the most frequent clinical presentations were loss of condition and sudden death.

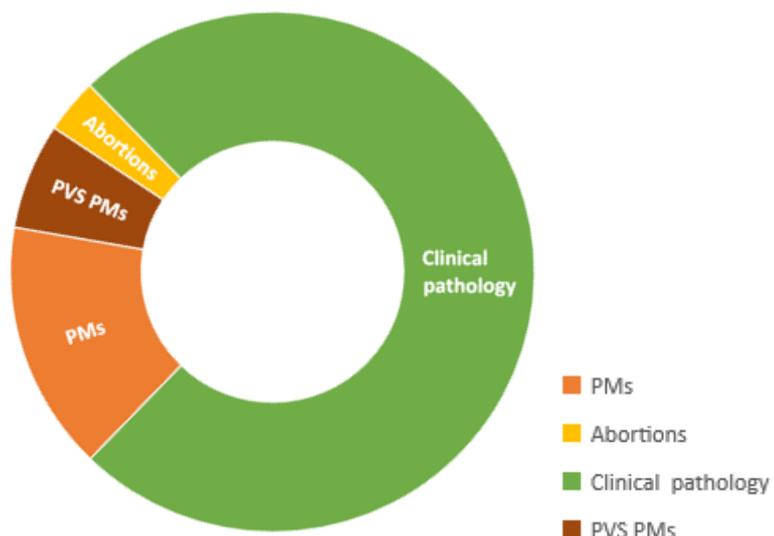
Webinars

Collectively the six Hubs held ten webinars with local clients on different issues such as respiratory disease. In addition, SRUC VS offered two nationwide webinars on Salmonellosis and a seasonal disease round up.

Webinar	Registered	Attendees	Watched recording	% Scottish registration
October	102	46	42	42
December	65	28	16	40

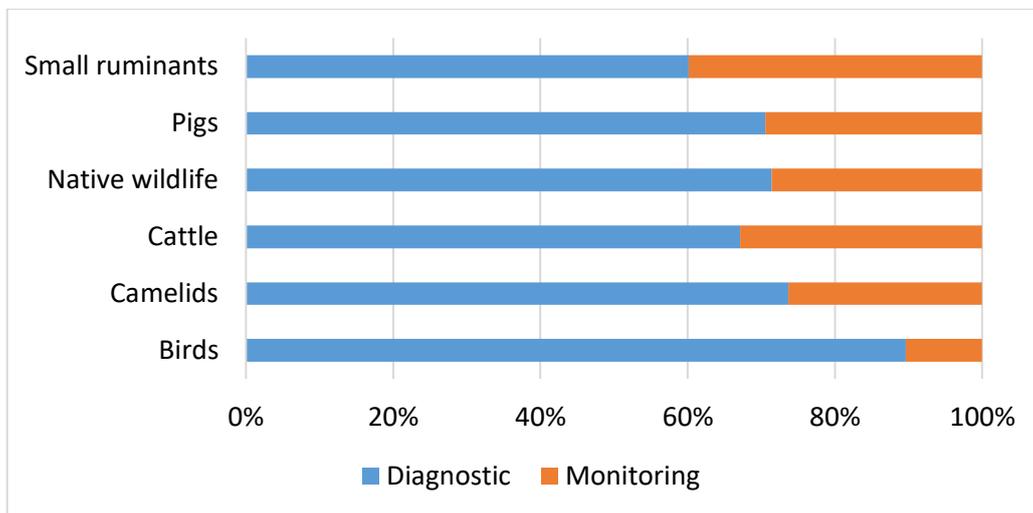
Submissions and Diagnostic rates

2,623 laboratory submissions were received from 110 vet practices in the SRUC VS catchment area – 95 practices based in Scotland and 15 practices in Cumbria and Northumberland, which carry out work on both sides of the border. Samples were submitted from cattle, small ruminants, birds, pigs, camelids, and native wildlife. Material is submitted for either diagnostic (disease investigation) or monitoring (screening of healthy animals) purposes. The ratio of diagnostic to monitoring submissions for this quarter was approximately 2:1. The relative proportions of the different types of diagnostic submission are shown below. Abortion and PM material is handled by our network of surveillance hubs throughout Scotland, while clinical pathology samples and material arising from carcass examinations by private veterinary surgeons (PVS) are submitted to our veterinary and analytical laboratory near Edinburgh. The most common clinical presentations for diagnostic submissions from ruminants in quarter 3 were diarrhoea, wasting, respiratory disease, abortion and animals found dead.



Submissions by species groups

Absolute numbers of submissions per species grouping are shown in the table below. The chart shows the splits between diagnostic and monitoring samples per species grouping. SRUC VS has long observed that monitoring submissions are submitted most commonly for sheep health management. This reflects the interest in parasite and trace element status in both extensively and more intensively managed flocks.

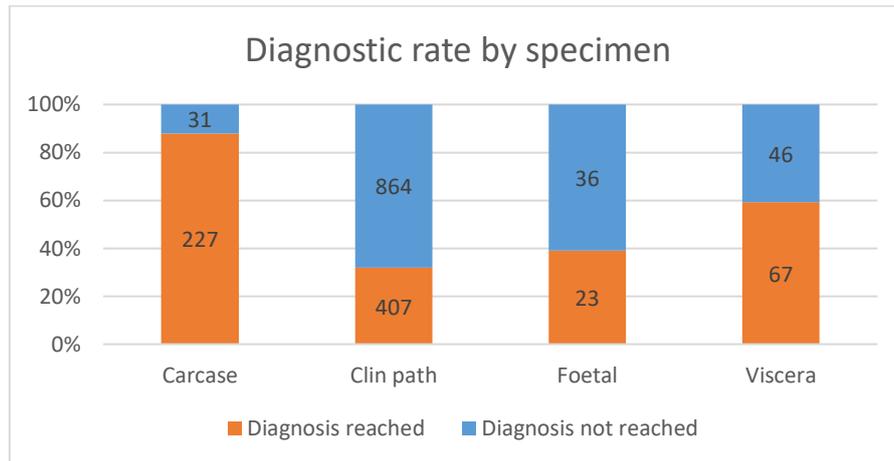


	Birds	Camelids	Cattle	Native wildlife	Pigs	Small ruminants
No. of submissions	58	19	1852	7	17	670

Diagnostic rates

Diagnostic rates throughout the quarter are shown below for carcasses examined by SRUC (Carcase); Clinical pathology submissions i.e., mainly blood and faeces (Clin path); Abortion investigations by SRUC (Foetal); Submission of viscera from post-mortem and abortion examinations by PVS (Viscera).

These rates indicate the value, both to surveillance activities and to disease investigation, of submitting carcasses to SRUC for examination, where possible. The diagnostic rate of clinical pathology submissions is improved by provision of a clinical history and by discussing sample selection and collection with a VIO prior to sampling. The same is true of viscera submissions. SRUC VS recognise that although individual diagnostic rates for abortion investigations is low, the diagnostic rate increases with the volume of material submitted from an outbreak.



Appendix 2 shows the diagnoses VS most commonly reached in ruminants based on submissions received from October to December 2020. The number of diagnoses reached in 2020 are compared to those from the previous ten years.

Farm Animal Surveillance Network

SRUC Vet Services & Private Vet Practices

-  SRUC Central Lab
 -  SRUC Hub
 -  SRUC Hub / PM Centre
 -  SRUC PM Centre
 -  Veterinary Practice
-  Scotland
-  England

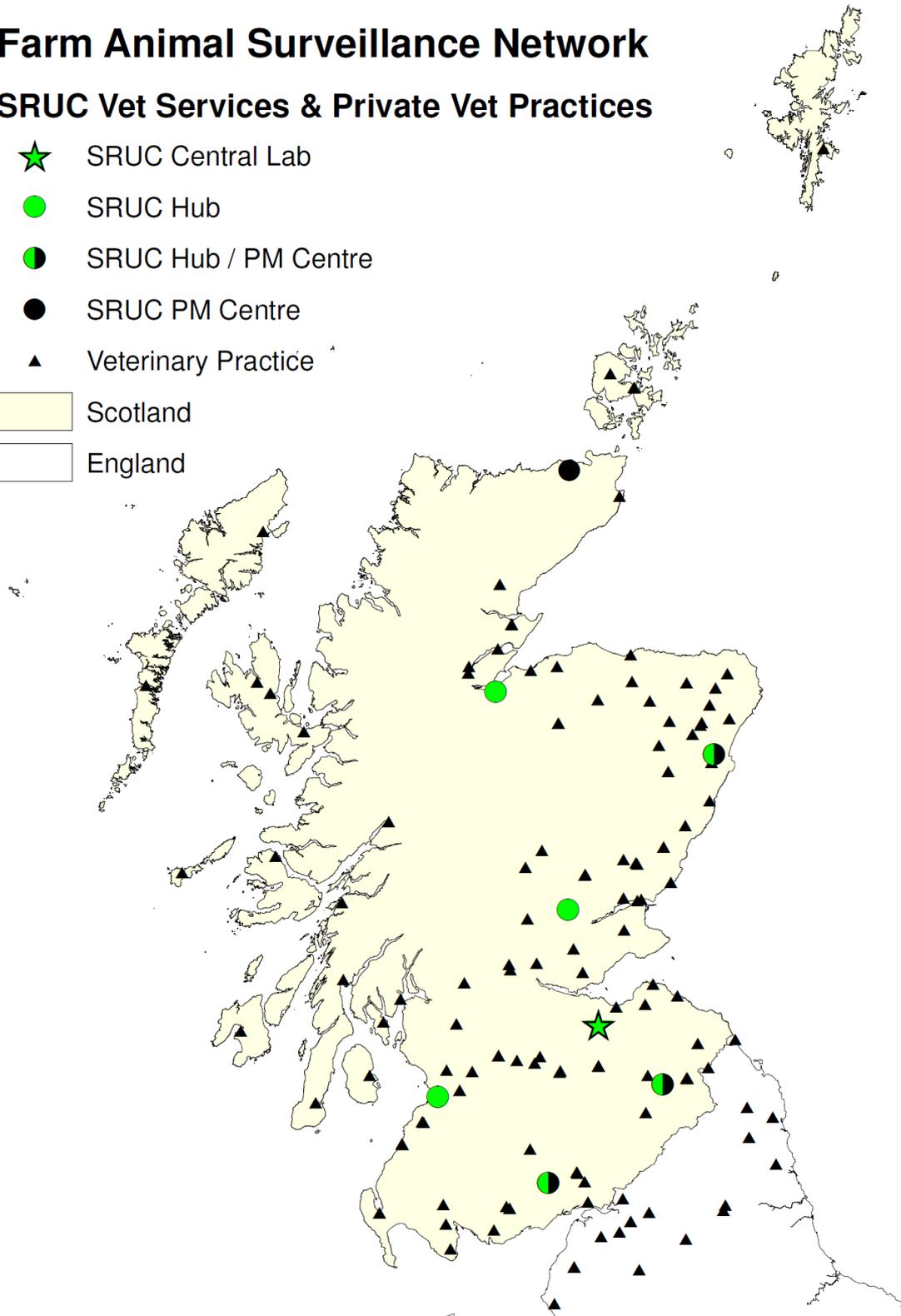


Figure 3: Geographic distribution of veterinary practices, the Pentland Science Park (Central Lab) and six SRUC Surveillance Hubs Aberdeen, Ayr, Dumfries, Inverness, Perth and St. Boswells



APPENDIX 2

Extract of diagnoses for submissions received from 1 Oct to 31 Dec 2020 by affected organ systems.. Where available the minimum, 1st quartile, median, 3rd quartile and maximum values for the respective period in the previous 10 years (2010 to 2019) are given.

CATTLE

Diagnosis name	Count Q3 2020	Minimum 2010 to 2019	First quartile 2010 to 2019	Median 2010 to 2019	Third quartile 2010 to 2019	Maximum 2010 to 2019
Digestive system						
Johne's Disease	106	89	104.25	145	159	204
Fascioliasis	26	14	24	32	62	86
Coccidiosis	20	6	10.5	15.5	20.25	36
Cryptosporidiosis	16	18	22	27.5	48.5	58
Rotavirus	12	11	13.25	21.5	29	42
Rumen fluke infection*	9	1	2	3	8	39
Parasitic gastroenteritis	6	3	7	7.5	10.5	13
Ruminal acidosis	6	1	2.25	5.5	6	7
Colibacillosis ETEC	5	1	1	4	5	6
Ruminal Bloat	4	1	1	2	3	5
Coronavirus infection	3	1	5	9	12	14



Respiratory system

Pneumonia - <i>M haemolytica</i>	18	16	19.25	23	24	25
Pneumonia -other cause	18	8	13.75	17	19.5	21
Pneumonia - RSV	15	5	6.25	8.5	11	22
Pneumonia - <i>P multocida</i>	12	8	11.75	15.5	18.75	21
Pneumonia - parasitic	12	5	8.25	9	10.75	12
Pneumonia - <i>H somni</i>	11	5	8	9.5	10.75	25
Pneumonia - <i>M bovis</i>	11	2	5	7	17	25
IBR/IPV	9	7	13	16	16.75	34
Pneumonia PI3	8	4	5.25	6	7	10
Pneumonia - <i>T pyogenes</i>	3	2	3.25	4	5.75	7

Reproductive and mammary system

Mastitis - <i>E coli</i>	23	11	14.5	20.5	26.75	37
Mastitis - <i>Strep uberis</i>	9	5	12	14	22	31
Mastitis -Staph coagulase +ve	7	1	4.5	7.5	12.25	20
Abortion - <i>S Dublin</i>	9	3	4.25	7	7.75	10
Abortion - <i>T pyogenes</i>	6	2	2.25	3	4.75	5



Abortion - <i>B licheniformis</i>	4	1	1.25	4	5	7
Abortion -fungi	4	1	2	3	4	5
Systemic and other diseases						
Salmonellosis - <i>S Dublin</i>	19	8	12.5	14.5	17	18
Salmonellosis -other	9	1	1	2	3.25	9
Hypomagnesaemia	8	5	7.25	9	11.75	24
Hypogammagloblinaemia	6	2	11.25	12	15.75	29
BVD persistently infected	4	1	4	10	24.5	57
Hyposelenaemia	4	4	5	8	13.5	22
Malignant catarrhal fever	4	1	1	3	5	9
Colisepticaemia	3	1	3	4.5	5	12
Navel ill - joint ill	3	2	3.25	4	4	8

* Rumen fluke infection is usually not associated with damage to the rumen; detection of rumen fluke eggs suffices to reach this diagnosis.



SMALL RUMINANTS

Diagnosis name	Count Q3 2020	Minimum 2010 to 2019	First quartile 2010 to 2019	Median 2010 to 2019	Third quartile 2010 to 2019	Maximum 2010 to 2019
Digestive system						
Parasitic gastroenteritis	48	32	52	56	62.75	67
Ruminal acidosis	10	4	6	10	13.25	16
Johne's Disease	13	8	8.5	11	13.75	16
Chronic fascioliasis	11	7	20.5	29.5	39	123
Coccidiosis	7	1	2	3	4.75	7
PGE - Nematodiriasis	6	2	4	4.5	5.75	7
Drenching gun injuries	6	1	3	4	5.75	10
<i>Clostridium perfringens</i> D (Pulpy Kidney)	5	2	4.25	6.5	10.5	13
Acute fascioliasis	2	1	3	15.5	22	111
Respiratory system						
OPA (Jaagsiekte)	11	4	6.75	9.5	11	16
Pneumonia -other cause	9	4	7	7.5	8.75	10
Pneumonia - parasitic	4	1	1.5	3	3	4



Pneumonia - <i>M haemolytica</i>	3	10	11.25	13.5	14.75	20
Laryngeal chondritis	3	2	4	4	6	7
Systemic and other diseases						
Pine/Cobalt deficiency	14	4	7	11.5	16	19
Hyposelenaemia	12	14	16	18.5	22.25	29
Systemic Pasteurellosis	8	10	18	21	29.5	34
Sheep scab	5	3	4.25	7.5	10.75	14
<i>T pyogenes</i> infection	5	1	2	2	2.75	6
Cerebro-cortical necrosis	4	2	3	3.5	4.75	8
Trauma/Fracture	3	1	3.25	4	4.75	7
Listeriosis (encephalitis)	3	1	1	2	2	4
F necrophorum infection	3	1	1	2	2	3
Orf	3	1	1	1	2	3
Meningitis/encephalitis	2	1	1	2	2	3
Hypocupraemia/Hypocuprosis	2	1	1	2	3	4
Yersiniasis	2	1	1.75	2	2	3