Animal & Plant Health Agency

SRUC

Great Britain miscellaneous and exotic farmed species quarterly report

Disease surveillance and emerging threats

Volume 33: Quarter 2 of 2022 (April to June)

Highlights

- **Suspected staphylococcal abortion in an alpaca page 6**
- **Hepatocellular necrosis in an adult alpaca page 6**
- **Haemonchosis in an alpaca page 7**
- **Chronic endoparasitism in red deer page 8**

Contents

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Introduction and overview

This quarterly report reviews disease trends and disease threats for the second Quarter of 2022 (April to June).

It contains analyses carried out on disease data gathered from the Animal and Plant Health Agency (APHA), SRUC Veterinary Services division of Scotland's Rural College (SRUC) and partner post mortem providers and intelligence gathered through the Miscellaneous and Exotic Farmed Species Expert Group networks.

In addition, links to other sources of information including reports from other parts of the APHA and Defra agencies are included. A full explanation of how data is analysed is provided on the APHA species disease surveillance reports: data analyses page on GOV.UK.

Issues and trends

New post-mortem providers join APHA's Scanning Surveillance Network in England and Wales

The APHA's post-mortem examination and diagnostic testing service provides a major component of the Great Britain scanning surveillance network. The network works closely with vets and farmers to detect and investigate new or re-emerging disease and diagnose endemic diseases in farm animals.

The APHA Surveillance Intelligence Unit and Surveillance and Laboratory Services Department were very pleased to announce that during January and February 2021, 3 additional post-mortem examination (PME) providers have joined the scanning surveillance network. These are the Universities of Cambridge, Liverpool and Nottingham.

This broadens the expertise of, and contributors to, livestock disease surveillance in England and Wales and also brings livestock premises in the areas they cover closer to a post-mortem provider.

The new PME providers join the 7 current PME providers: the Royal Veterinary College, the Universities of Surrey, Bristol, Cambridge and Liverpool, the Wales Veterinary Science Centre, and SRUC Veterinary Services St Boswells that work together with the 6 APHA Veterinary Investigation Centres (VICs), all of which will continue their valued contribution to scanning surveillance.

Key points about accessing PME in APHA's scanning surveillance network:

- each PME provider has an assigned area as shown in colour on the APHA scanning surveillance network
- within each assigned area, the hatched area shows where premises are eligible for free carcase collection and delivery of animals to the PME provider

- premises within non-hatched areas need to arrange to deliver animals themselves
- the postcode search tool identifies and provides contact details for the allocated PME provider and indicates if the premises is eligible for free carcase collection. This is based on the postcode of the premises from where an animal is to be submitted rather than a veterinary practice
- to arrange a PME, the vet calls the relevant PME provider to speak to the duty Veterinary Investigation Officer (VIO) or vet
- there will be some livestock premises for which the allocated PME provider has changed, and the free carcase collection service may no longer be provided for some holdings. The APHA postcode search tool allows farmers and vets to see the situation for individual premises

More information about APHA's scanning surveillance and diagnostic services is available on Vet Gateway and in the attached farmer and vet information leaflets which include a map showing the PME sites.

If you have queries which are not addressed in this communication please contact the APHA Surveillance Intelligence Unit by emailing SIU@apha.gov.uk.

Diagnostic Submission Data

The number of diagnostic submissions in Quarter 2 of 2022 (April to June) for alpacas, llamas and farmed deer (see Table 1). The APHA figures include submissions to partner post-mortem providers (PPP). Other miscellaneous and exotic species may also be received in small numbers.

Carcase and non-carcase submissions for the same Quarter (April to June) for period 2018 to 2022 are shown in Figure 1.

January-March	Non-carcase submissions APHA	Non-carcase submissions SAC	Total non-carcase submissions	Carcase submissions APHA	Carcase submissions SAC	Total carcase submissions	Grand total
2018	12	11	23	23	5	28	51
2019	8	6	14	27	8	35	49
2020	14	2	16	13	2	15	31
2021	18	21	39	22	4	26	65
2022	21	26	47	20	3	23	70

Table 1: Diagnostic submissions in Quarter 2 (April to June) for alpacas, llamas and farmed deer.

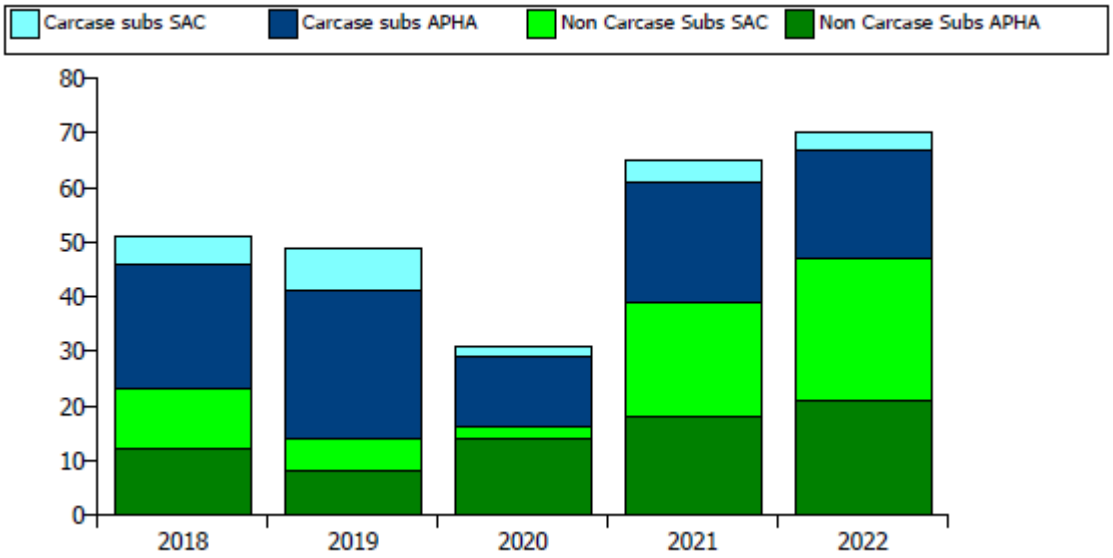

Figure 1: Diagnostic submissions in Quarter 2 (April to June) for alpacas, llamas and farmed deer in a graph.

Total diagnostic submissions for Quarter 2 for all years (2018 to 2022) for each main species covered by this report and also for each main geographical area (see Table 2).

All Years	Alpaca	Deer	Llama	Sum
Eastern England	48	12		60
Northern England	27	7	4	38
Scotland	36	23	4	63
Wales	5	2		7
Western England	57	6	2	65
Unknown	23	4	6	33
Summary	196	54	16	266

Table 2: Total diagnostic submissions for Quarter 2 for all years (2018 to 2022) in the different geographical areas.

New and re-emerging diseases and threats

Nothing to report this Quarter.

Diagnoses from the Great Britain scanning surveillance network including unusual diagnoses

Camelids

Neoplasia in an adult alpaca

An 11-year-old alpaca presented with a chronic ulcerative skin lesion in the caudoventral neck. Subjacent to the skin lesion was a subcutaneous mass. Following failure to respond to non-surgical treatment and deterioration in condition the alpaca was euthanased. The mass which measured 20cm diameter and depth of 10cm consisted of two compartments, one containing dry caseous material draining to the skin via a fistula and another contiguous and of solid homogenous tissue (Figure 2). Histological examination diagnosed the mass as consistent with a non-epitheliotropic lymphoma with a severe secondary non-specific bacterial infection. Spontaneous lymphomas are recognised as one of the most frequent neoplasia in South American camelids, affecting both young and adult animals. Ulceration due to skin trauma and secondary bacterial infections are frequent in these cases.

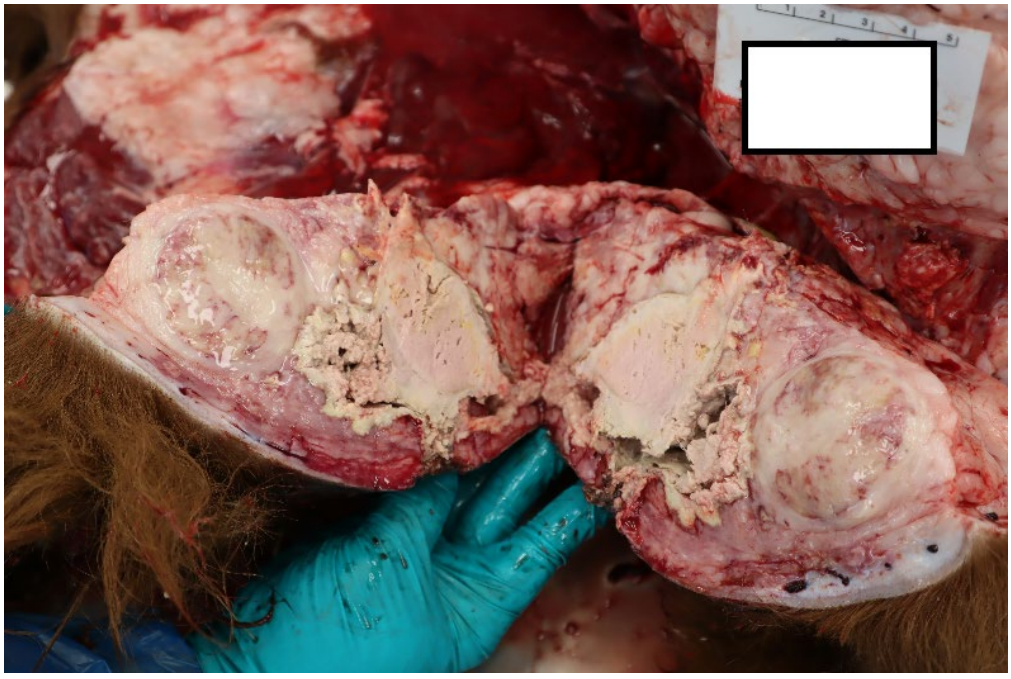

Figure 2: Alpaca, incised lymphoma in the neck sub-cutis.

Suspected staphylococcal abortion in an alpaca

A pre-term cria was submitted to investigate the cause of abortion 2 weeks before due date. The aborting dam was a 5-year-old alpaca, and this was her first cria and was one of a group of 28 females in a herd of 43. Another female in the herd had produced a non-viable cria which had a twisted neck (this alpaca had previously produced a cria with spina bifida). No gross abnormalities were seen in the present case and laboratory testing identified a pure growth of *Staphylococcus warneri* from the stomach contents. This organism has been associated with fetal bacteraemia and sporadic abortion in cattle, although histology did not identify specific associated lesions in this cria. *Staphylococcus warneri* is commonly found on skin. Spread from an infected wound or breaching of the cervix were potential routes of introduction for this foetus.

Hepatocellular necrosis in an adult alpaca

Hepatocellular necrosis of an unknown cause was the diagnosis in an adult alpaca which displayed a one-to-two-week history of malaise, reduced appetite and abdominal pain before being found dead despite treatment. Grossly the liver appeared enlarged with fibrin stranding over the surface. The parenchyma has a distinct nutmeg appearance. Histopathology was required to make a diagnosis of hepatocellular necrosis, which is an uncommon finding in camelids. Copper toxicity is one potential cause, however the liver copper level in this case was below the reference range at 187 micromol/kg DM (Reference range 300-5000 micromol/kg DM). Under-perfusion of the liver has been hypothesised as another potential cause in literature, as has ingestion of blue-green algae or aflatoxicosis. In this case, the definitive cause could not be identified, and it was recommended that further history was taken from the owner to identify any potential trigger events.

Figure 3: liver enlarged with fibrin stranding over the surface.

Haemonchosis in an alpaca

Haemonchosis was diagnosed in an alpaca with a total worm egg count of 5,700 eggs per gram with differential staining of eggs revealing a *Haemonchus sp* egg percentage of 99%. A study (1) was conducted in the University of Georgia by the parasitology department targeting the pathology of this parasite in llamas and alpacas. Common gross lesions included peritoneal, thoracic, and pericardial effusions, visceral pallor, subcutaneous oedema and serous atrophy of fat. They associate that in 15.7% of the total cases, the parasite was the major cause of death. The study highlights that routinely monitoring camelids with FAMACHA (FAffa MAlan CHArt) checks and faecal egg counts should aid in diagnosing and preventing loss caused by parasitism.

Neonatal death of a cria

A neonatal cria was submitted after being born weak and dying shortly after birth. Colostrum was administered via stomach tube before death. The affected dam, one of a group of six on the farm, produced a stillborn cria last year. Post-mortem findings found lung oedema and froth in the trachea. Cultures ruled out septicaemia and BVD persistent infection was discounted following PCR testing. Zinc sulphate turbidity testing revealed severe hypogammaglobulinaemia (turbidity units 1, reference range >20) and

histopathology identified an aspiration pneumonia, likely due to inadvertent tubing of milk into the lungs. It was uncertain whether these diagnoses accounted for the weakness reported at birth, and it was recommended that issues with parturition or maternal factors should be investigated on farm.

Farmed deer

Chronic endoparasitism in red deer

Scour was reported in a group of 100, housed, post-weaned Red Deer. The animals were homebred and been housed for approximately one month. They were fed silage with no additional concentrate feed. Cattle and sheep were also present on farm. A typical case was euthanased and submitted. Post-mortem findings included poor body condition, scour, corrugation of the abomasal mucosa and mucosal haemorrhages throughout the jejunum. No worm eggs or coccidia were detected on parasitology, bacterial cultures were not significant and tests for BVD, MCF and Johne's disease were negative. Histopathological evaluation of gastrointestinal tissues was undertaken to investigate further. This revealed a moderate, diffuse, chronic, eosinophilic, lymphoplasmacytic enterocolitis consistent with chronic endoparasitism and was suggested as the likely cause for the clinical signs. The worming history of this animal was uncertain, but recent worming could explain the unrewarding parasitology results. A review of parasite control on farm was recommended.

Horizon scanning

APHA's new Endemic Disease Alert System

This is a new component of the communications from our scanning surveillance network and a new system that the APHA will be using 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 email SIU@apha.gov.uk with your:

- email address
- mobile number, if you wish to receive text alerts

We hope that you find this new messaging system useful and we welcome any suggestions or feedback. Email Surveillance Intelligence Unit SIU@apha.gov.uk for more information.

Publications

None to report this quarter.

References

1. Edwards EE, Garner BC, Williamson LH, Storey BE, Sakamoto K. Pathology of Haemonchus contortus in New World camelids in the south eastern United States: a retrospective review. *Journal of Veterinary Diagnostic Investigation*. 2016;28(2):105-109. doi:10.1177/1040638716628587

Statement regarding use of this material

This publication is available at:

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

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

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

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