

Welcome to the third edition of AFBI's Disease Surveillance and Investigation Branch (DSIB) newsletter where we hope to keep you updated on what we can do for you as a branch, upcoming CPD events, changes to testing and some interesting cases to watch out for. In this issue we take a closer look at Malignant Catarrhal Fever, the reappearance of Schmallenberg virus and the work that is carried out on all bovine abortion submissions... the DSIB team.

## Malignant Catarrhal Fever (MCF)

MCF is a disease of cattle, deer (apart from fallow deer) and occasionally pigs. The virus which causes MCF in the UK, the ovine herpesvirus type 2 (OHV-2), is ubiquitous in our sheep population where it remains latent and unapparent with intermittent virus shedding. Disease in other species occurs when there is contact with sheep at the time of shedding. This does not have to be direct contact as aerosol transmission can also occur over short distances. Viraemia typically ceases in sheep over the age of 6 months but can become reactivated during periods of stress such as late pregnancy and during these times virus can be transmitted to susceptible species. It is often at these times, such as lambing that sheep are brought indoors and may have increased contact with cattle on the farm. The incubation period is from 2 to 10 weeks but can be longer. Therefore disease outbreaks during early summer are often seen following the spring lambing period. Disease is generally sporadic although severe herd outbreaks can occur. The disease is characterised by lymphadenopathy, erosive-ulcerative mucosal and cutaneous lesions, ocular lesions such as corneal opacity and oedema, neurological signs, diarrhoea and pyrexia. All, some or in peracute cases, none of these signs may be observed. A clinical picture of ocular, mucosal or cutaneous lesions, pyrexia, unexplained sudden death or severe diarrhoea should raise suspicion of MCF particularly where there is a history of exposure to sheep. MCF can look like other diseases namely Foot and Mouth disease and mucosal disease so all suspect cases should be investigated accordingly. A blood test can be used to check for the presence of MCF antibodies but often the animal dies before an immune response develops. During post mortem signs suggestive of MCF will be recorded and histopathology will be used to confirm the diagnosis in suspect cases which are seronegative. In addition, PCR can be used to confirm the presence of the virus.

## Bovine abortion investigation

Abortion submissions help AFBI gathering surveillance information on a range of diseases/conditions including zoonotic (e.g. salmonellosis, brucellosis), new and emerging (e.g. Schmallenberg) and epizootic (e.g. Bluetongue), as well as monitoring trends on endemic diseases to help veterinarians in practice and herd owners controlling disease on farms. On average, 450 bovine foetal submissions are submitted every year. All bovine submissions are cultured for *Brucella abortus* using a sample from their abomasum. With the reduction in herd serological screening, the testing of bovine aborted foetuses for brucellosis is an important part of the surveillance system. But how else can bovine abortion investigation help your farmers? Apart from checking for *Brucella abortus*, bacteriology will be performed for other bacterial and fungal organisms that can cause bovine abortion and an initial report typically released within 5 days of a submission. This can give your farmer vital herd health information, in particular when organisms such as *Salmonella* species are detected. Foetal fluid will be taken from each submission and tested for any evidence of exposure to Neospora and Leptospira and for the presence of BVD virus. The results of these tests will be reported as soon as they are available. Foetal fluid is tested for BVD virus, and for evidence of exposure to Neospora and Leptospira, and foetal lung, kidney and adrenal are tested by

immunofluorescence for *Leptospira* organisms. Histopathology is performed on foetal brains to detect lesions suggestive of Neosporosis and in all cases of foetal deformity, testing for Schmallenberg and Bluetongue viruses is carried out. Completion of testing can take up to a couple of weeks, but all results are reported as soon as they are available. If you are concerned that you haven't received an initial report following any submission, please contact the laboratory to confirm that the correct contact information has been provided.

A serological package is also available as a tool for diagnosing bovine abortion. Tests for antibodies to BVD, IBR (BoHV-1), *Neospora caninum* and *Leptospira* Hardjo as well as *Brucella abortus* are included. These have to be interpreted in light of vaccination and bearing in mind that the presence of antibodies does not necessarily link exposure to the clinical problem.

Chart 1: Summary of bovine abortions in Northern Ireland 2016

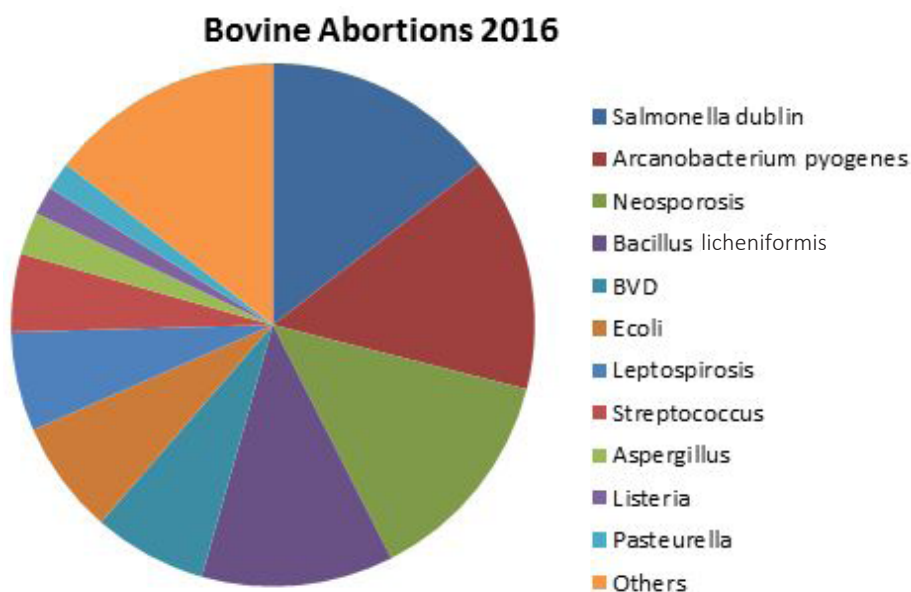


CHART 1 (Left) gives a summary of the causes of bovine abortion diagnosed in Northern Ireland during the period January to December 2016.

Specimens from 430 bovine abortions and stillbirths were examined during 2016. Significant pathogens were detected in 190 cases (44.2%). Of these, *Salmonella* Dublin (33 cases, 7.7%) and *Arcanobacterium pyogenes* (33 cases, 7.7%) were the most commonly identified pathogens. Other pathogens identified included *Neospora caninum* (31 cases, 7.2%), *Bacillus licheniformis* (27 cases 6.4%), *E. coli* (16 cases, 3.7%), BVDV (16 cases, 3.7%) and Leptospirosis (14 cases, 3.3%).

## Schmallenberg virus

Schmallenberg virus (SBV) was first identified in Germany in late 2011 as a cause of malformations in newborn calves and lambs. This virus can cause diarrhea outbreaks and a temporary dip in production, such as milk output, although abortions, stillbirths and birth defects can result when pregnant animals are affected.

AFBI has recently detected SBV in one ovine abortion case. The lamb presented typical characteristics of this viral infection including severe abnormalities in its limbs, spinal cord and brain. This is a reoccurrence of this disease which had last been detected in Northern Ireland in 2013. Recent weeks have also seen positive Schmallenberg serology in four calves with skeletal abnormalities from separate herds, and a cow from a herd experiencing abortions and calf abnormalities. All of these cases came from herds based on the East of NI. Whilst an antibody positive does not confirm the involvement of the virus, it provides evidence that this virus is circulating again in Northern Ireland.

## Submissions of cats and dogs

We are often asked if we can perform post mortem examinations (PME) on cats and dogs. Although routine diagnostic PMEs are not currently offered, we can perform a post mortem where poisoning is suspected and the case qualifies for the Health and Safety Executive Chemicals Regulation Division (CRD) Wildlife Investigation Scheme. If a crime is suspected, the PSNI should be contacted and an incident number should be obtained prior to submission. Samples will be taken for toxicology unless an obvious cause of death is seen. If an obvious cause of death is seen this will be reported to you and no samples will be sent for toxicology. Pet owners should be made aware that they will not be able to take their pet home and that initial results of toxicological testing can take up to 12 weeks. Please contact the laboratory to discuss before any submission is made. Note that samples taken from suspected poison cases (e.g. stomach contents/vomit) and submitted to AFBI do not qualify to be tested under the scheme.

## New Canine Leptospirosis serology package

The Leptospira Unit in AFBI has recently reviewed the serological tests available for the detection of exposure to Lepto strains in dogs. Seroprevalence studies and a review of literature has indicated the need for inclusion of serovars Bratislava and Grippotyphosa in European dog vaccines, the continued use of Canicola and Icterohaemorrhagiae, but found no case at present for the inclusion of serovar Pomona. In line with these changes and to accommodate the new generation of canine vaccines, the existing canine four serovar test (LMAD) has been replaced with a new six serovar package which will now detect antibodies to Grippotyphosa and Pomona as well as Hardjo, Canicola, Ictero and Bratislava.

The name of the new test is LKAN6 and it will be available on request.

## Avian Influenza H5N8

The highly pathogenic avian influenza (HPAI) subtype H5N8 first emerged across Europe and Asia in 2014, causing deaths in wild bird populations and outbreaks in domestic poultry flocks. AFBI carries out surveillance and detection of epizootic disease threats, including HPAI. To-date, four wild birds have tested positive for H5N8 in Northern Ireland: three swans and one Chinese goose.

As a precautionary measure, the Department put in place an Avian Influenza Prevention Zone (for updated information check: [www.daera-ni.gov.uk/articles/avian-influenza-ai](http://www.daera-ni.gov.uk/articles/avian-influenza-ai)). A leaflet is available on the DAERA website for any of your clients that have small backyard flocks and would like some further information. [www.daera-ni.gov.uk/publications/keep-your-birds-safe-avian-influenza](http://www.daera-ni.gov.uk/publications/keep-your-birds-safe-avian-influenza)

If you find one or more dead gulls, waders, ducks, geese and swans (webbed feet, long legs or long neck) the DAERA Helpline should be contacted at 0300 200 7840.

## AFBI Cattle Health Scheme is 10!

This year marks the 10th anniversary of the launch of AFBI Cattle Health Scheme.

To celebrate it, we will have a vet training day on the 27th September in AFBI Hillsborough with presentations from our local experts as well as a guest speaker. We will issue further details shortly but if you would like to register your interest please send us an email to [cattlehealthscheme@afbini.gov.uk](mailto:cattlehealthscheme@afbini.gov.uk).



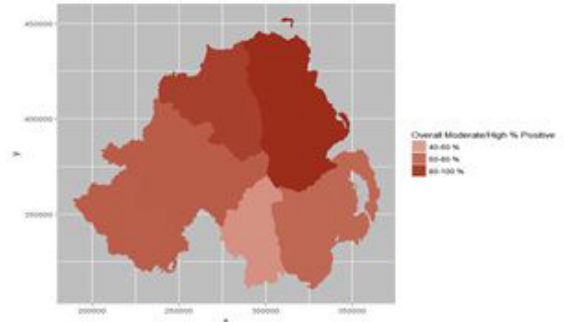
## New price lists

AFBI has new price lists for the animal diagnostic services in place from the 5th April 2017. The disease surveillance price list is applied to herds based in Northern Ireland and contains tests/packages subsidised by DAERA (e.g. most of the post-mortem examinations). For herds based outside NI, the 'commercial-Non-disease surveillance' price list will be applied. Electronic copies can be found in our website:

[www.afbini.gov.uk/articles/submission-information-vets](http://www.afbini.gov.uk/articles/submission-information-vets)

# Investigating the Links between Bovine TB and Liver Fluke Infection on Northern Ireland Dairy Herds

**Liver fluke** can have a significant effect on production, and has been associated with bovine TB risk. AFBI scientists are examining the link between bTB link by undertaking a large scale anonymous bulk milk survey. During 2016, over 2,890 **bulk milk samples** were tested by AFBI from >1,480 farms using an [anonymous survey](#). The results found **27% of farms had a high level of fluke infection**. There was higher risk in spring than summer, and there was significant variation in risk across counties (see Figure). **You can help with this study!** To make full use of the data generated, we are keen to understand more about the control of liver fluke. We have designed a brief questionnaire which can be filled in online at: [bit.ly/2kV6MFO](http://bit.ly/2kV6MFO)



We would really appreciate your help! To make this **useful to you and your clients**, if they provide us with their herd-ID and contact information, we can relay **personalised liver fluke results for herds that were sampled**. These data will be useful for you to understand the level of exposure to liver fluke within your herd/area. AFBI abide by Data Protection legislation, meaning your data will be handled to **ensure your anonymity**.

## Meet the staff

### Seán Fee

Seán was raised on a small County Fermanagh dairy farm. He qualified as a veterinary surgeon from University College Dublin in 1991. After qualification Seán started work in mixed practice in Drumrainey Veterinary Surgery in Magherafelt with Clarke, Crockett and Jamison. He later spent five years with Rathfriland Veterinary Clinic in County Down.

After a short period in Dungannon DVO, Seán joined Veterinary Sciences Division in 2001 during the foot and mouth crisis. Since 2001 Seán has been based in Omagh working as a veterinary pathologist. Case throughput in Omagh is high where Seán and his colleagues deal mainly with cattle and sheep pathology and also examinations in pigs, equines and poultry. Seán also manages wildlife surveys in foxes for the important parasites *Trichinella* and *Echinococcus*.

You can find contact numbers for DSIB@ [www.afbini.gov.uk/articles/office-hours-and-contact-numbers](http://www.afbini.gov.uk/articles/office-hours-and-contact-numbers)

