

DSIB NEWSLETTER WINTER 2017 Issue 4

Welcome to the fourth edition of AFBI's Disease Surveillance and Investigation Newsletter where we hope to keep you updated on what we can do for you as a branch, changes to testing and upcoming events. In this issue we take a closer look at Infectious bovine rhinotracheitis and how we test for it at AFBI. If you have any comments about what you would like to see included here please let us know.

The DSIB team

Disease spotlight: Infectious bovine rhinotracheitis

Infectious bovine rhinotracheitis (IBR) caused by Bovine Herpesvirus-1 (BHV-1) was the second most common viral cause of bovine respiratory disease diagnosed on post mortem in 2016 (All-island report 2016). The respiratory form of the disease infects the nasal cavity, larynx, trachea and lungs (see the necrotic larynx below). It can also cause abortions, although this clinical manifestation is not typically seen in Northern Ireland. Like other herpesviruses it sets up latent infections in recovered animals, which shed the virus and become sources of infection for other bovines in times of stress.



Vaccination is an effective means of control but it does not stop carrier animals shedding the virus. IBR is a notifiable disease in Northern Ireland due to trade restrictions to some European countries and cases should be reported to DAERA. Testing for IBR is provided by AFBI in a number of ways. In acute cases sent for post-mortem examination, gross and histopathological changes may be seen and samples can be taken and tested for the presence of the virus by IFAT or PCR. Practitioners can also submit nasal swabs or tissue samples to test for the presence of BHV-1. In abortion cases serology is used to check for the presence of IBR antibodies in foetal fluid and IBR antibody is tested for in the bovine abortion package on serum using ELISA. We also offer IBR ELISA on serum or individual milk samples to look for

the presence of antibodies but this test is not able to distinguish between antibodies produced in response to conventional vaccines and those produced by field exposure. An animal can be a carrier for IBR and be vaccinated. Animals that have received a marker vaccine can be distinguished from those exposed to field infection using the IBRgE marker test. The IBR marker vaccine has had the IgE protein removed so these animals return a negative antibody result whilst those exposed to field infection or vaccinated with a conventional vaccine return a positive antibody result. The following table can be used as reference when interpreting IBR ELISA results:

	IBR conventional test	IBRgE marker test
Marker Vaccinated Animals	Positive	Negative
Regular Vaccinated Animals or Infected Animals	Positive	Positive
Non vaccinated or exposed animals	Negative	Negative

Bulk milk samples can also be tested by ELISA to look for the presence of IBR in a herd. Care should be taken if using multivalent respiratory vaccines which may contain IBR as only marker vaccines can be used as part of eradication programmes and bulls entering AI stations should never have been vaccinated against IBR or receive colostrum from a dam that has been vaccinated. More information on sampling and an up to date price list can be found here: www.afbini.gov.uk/publications/animal-health-disease-surveillance-price-list-20117-18

AFBI Cattle Health Scheme celebrates its ten year anniversary.



A special event was held in the Seagoe hotel on Wednesday 15th November to celebrate the 10 year anniversary of the AFBI Cattle Health Scheme (CHS). Our guest speaker was Keith Cutler, past president of the British Veterinary Cattle Association and he spoke about “making wealth from cattle health”. The AFBI Cattle Health Scheme is licensed to the UK-wide Cattle Health Certification Standards (CHeCS) and is the only one of its kind in Northern Ireland. Whilst popular with pedigree cattle farmers it has many benefits for all. It provides a structured pathway for the control and eventual eradication of the top five non statutory diseases in Northern Ireland; Johne’s, Infectious bovine rhinotracheitis, Bovine viral diarrhoea, Leptospirosis and Neosporosis. The rules, if followed will greatly enhance on farm biosecurity and lead to a healthier more profitable herd

as a result. If you would like to discuss the AFBI CHS and how it could benefit your farmers please get in touch with us at: +44 (0)2890 525 749 or cattlehealthscheme@afbini.gov.uk

Winter Fodder shortage

Due to early autumn housing and difficulties harvesting silage, there will be a shortage of fodder this winter in some areas and some of the fodder that was collected in the late summer and autumn will be of a poorer quality due to the wetter conditions. We have already started to see health problems associated with this in animals sent in for post mortem, particularly in ruminants. Health problems associated with feeding insufficient forage or forage with a low metabolisable energy include an increased rate of clinical and subclinical ketosis, an increased rate of mineral and energy deficiencies and problems associated with a reduced volume and quality of colostrum production and a lower tolerance to parasites. Soil contaminated forage can also contribute to sporadic cases or outbreaks of diseases such as those due to *Listeria monocytogenes*, *Bacillus licheniformis* and fungal infections. Your clients may see production problems such as lower milk yields and lameness and welfare issues in dairy cows, reduced fertility and a lower birth rate of calves and lambs. Reduced availability of straw could lead to reduced bedding, leading to increased faecal contamination of houses already under increased pressure where animals had to be housed earlier. Increased faecal contamination leads not only to increased incidences of diarrhoea but also mastitis, reproductive tract infections and respiratory disease. Increased concentrate feeding may be used to maintain performance but can lead to other health problems in particular an increased risk of metabolic disease such as ruminal acidosis and laminitis. Any change of feed should be made gradually. The Northern Ireland Department of Agriculture Environment and Rural Affairs (DAERA) has useful information and advice to help your clients in relation to fodder management, including storage, and on dealing with winter feeding of livestock on beef and sheep farms with limited fodder supplies on beef & sheep farms:

www.daera-ni.gov.uk/articles/fodder

Getting the most from postmortem examinations and sampling

In farming as in all business every cost must be justified and this includes the cost of diagnostic tests. To get the greatest value for money from diagnostic tests for your client a few things should be kept in mind. Autolysis of carcasses will affect interpretation of post mortem and histopathological changes and reduce the rate of diagnosis as a result. Carcasses for post-mortem should be submitted as fresh as possible and ideally within 12 hours of death if possible. Bear in mind recent antibacterial treatment will affect bacteriology results. Consider which samples will yield the greatest diagnostic value. For example when investigating a diarrhoea outbreak on a farm a pretreatment faecal sample may give better diagnostic value than a full postmortem examination. Providing a thorough history describing clinical signs, differential diagnosis and treatment when submitting samples will ensure all appropriate samples are taken at the time of postmortem examination. It goes without saying that diagnostic samples such as faeces and milk samples should be taken before treatment. Advise your clients on sampling technique (particularly in the case of milk) to avoid contaminants and if possible hand deliver milk samples as soon as possible to either the Stormont or Omagh laboratories. If you are unsure of what tests we can offer you or would like advice for your clients on sampling feel free to give us a call.

Bird of Prey Persecution and Poisoning Report Northern Ireland 2015 and 2016

57 birds of prey were confirmed victims of reckless or intentional criminal activity in Northern Ireland during 2015 & 2016. Their deaths were conveyed in 49 cases of wildlife crime involving birds of prey reported to the PSNI in 2015 & 2016. The latest report detailing the illegal killing of Northern Ireland's native birds of prey has been published by the Partnership for Action against Wildlife Crime (PAW NI) and is available www.wildlifecrimeni.org. It reveals that there were five confirmed illegal poisoning or persecution incidents in 2015 and a further six in 2016, involving the killing of 12 protected birds of prey in Northern Ireland during this period (six buzzards, five peregrines and one sparrowhawk).

All-island animal disease surveillance report for 2016

This report is prepared by the veterinary diagnostic laboratories operated by the Agri-Food and Biosciences Institute (AFBI) in Northern Ireland, and by the Department of Agriculture, Food and the Marine (DAFM) in the Republic of Ireland. The report summarises the information generated on diseases of farmed animals during 2016 by the network of veterinary laboratories operating across the island.

All reports are available online: www.afbini.gov.uk/articles/animal-disease-diagnostic-services

YVN meeting and other events

We're looking forward to welcome another 'An introduction to your local veterinary laboratory' afternoon organised with the Young Veterinary Network. The event will take place on Wednesday 24th January, AFBI Stormont 1-5pm.

Avian influenza

Avian Influenza is a disease of birds, but can also affect humans and other mammals. With the onset of winter, wild birds migrate to the UK from Europe and further afield thus increasing the threat of introducing disease to Northern Ireland. Two types of Avian Influenza exist; highly pathogenic and low pathogenic. Highly pathogenic avian influenza (HPAI) is more serious and is often fatal in birds and although clinical signs vary between birds they include: swollen head, blue discolouration of neck and throat, Loss of appetite, respiratory distress such as gaping beak, coughing, sneezing, gurgling, rattling, diarrhoea, reduction in egg production and increased mortality.

Some species such as ducks and geese, however, may show minimal clinical signs. Low pathogenic avian influenza (LPAI) can cause mild breathing problems but often affected birds will not show clear clinical signs. The first cases of highly pathogenic H5N6 have recently been confirmed in dead swans in England, and testing on this virus indicates it is closely related to the strain of H5N6 that has been circulating in wild birds in Europe for several months. There have been no cases detected in Northern Ireland as yet, however DAERA are continuously monitoring the situation. Surveillance testing and investigation of mortality in wild birds is carried out by AFBI, with rapid reporting of results to DAERA so that action can be taken quickly to prevent spread of infection. Flock owners should take action to minimise the likelihood of transmission of infection and a full list of recommendations, as well as important information regarding avian influenza,

is available on the DAERA website <https://www.daera-ni.gov.uk/articles/avian-influenza-ai>.

Some guidelines for protection of backyard flocks include: timely investigation of dead or sick birds, good biosecurity (cleaning of boots before and after contact with birds, disinfecting hard surfaces regularly, humane control of vermin), making sure feed and water are placed in a fully enclosed area out of reach of wild birds and keeping birds separate from wildlife and wild waterfowl by putting suitable fencing round the outside areas they access.

A text alert service is available for all bird keepers to receive notifications of disease outbreaks and all bird keepers should be encouraged to subscribe by texting 'BIRDS' to 67300.

Avian Influenza is a notifiable disease and the law requires any suspicion to be reported and investigated.

African Swine Fever Risk

Due to the spread of ASF in Eastern and Central Europe this summer, the risk level of this disease entering the UK has been raised. DEFRA has recently issued a warning to pig keepers not to feed kitchen scraps to pigs. For more information: <https://www.daera-ni.gov.uk/articles/african-swine-fever> and this one: <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/17.18.109%20African%20Swine%20Fever%20A4%20Leaflet%20-%20September%202017.PDF>

Meet the staff: Aoibheann Donaghy



Aoibheann joined the Disease Surveillance and Investigation Branch in June 2008 as an Assistant Scientific Officer and now works as a Higher Scientific Officer within the Bovine Viral Diarrhoea eradication scheme and molecular testing laboratories section of diagnostic virology. Aoibheann manages the receipt, preparation and testing of samples from three national BVD eradication programmes including our own programme here in Northern Ireland. As you can imagine it is a very busy laboratory with a high throughput of samples especially a certain times of the year! Aoibheann also manages PCR diagnostic testing for Infectious bovine rhinotracheitis and Johne's. Aoibheann has a wide range of experience in classical virology and serological testing and is part of the rapid response team for suspected outbreaks of epizootic disease

You can find contact numbers for DSIB@ www.afbini.gov.uk/articles/office-hours-and-contact-numbers