Agri-Food and Biosciences Institute ®

Disease Surveillance and Investigation Branch

Newsletter

ISSUE 2

DSIB NEWSLETTER WINTER 2016 Issue 2

Welcome to the second newsletter from the Disease Surveillance and Investigation Branch at AFBI where we hope to keep you updated on what we can do for you as a branch, changes to testing and some interesting cases to watch out for. In this issue we take a closer look at Jaagsiekte disease in sheep and red mite infestation in poultry and we also give an overview of calf neonatal enteritis testing. If you have any comments about what you would like to see included here please let us know.

The DSIB team

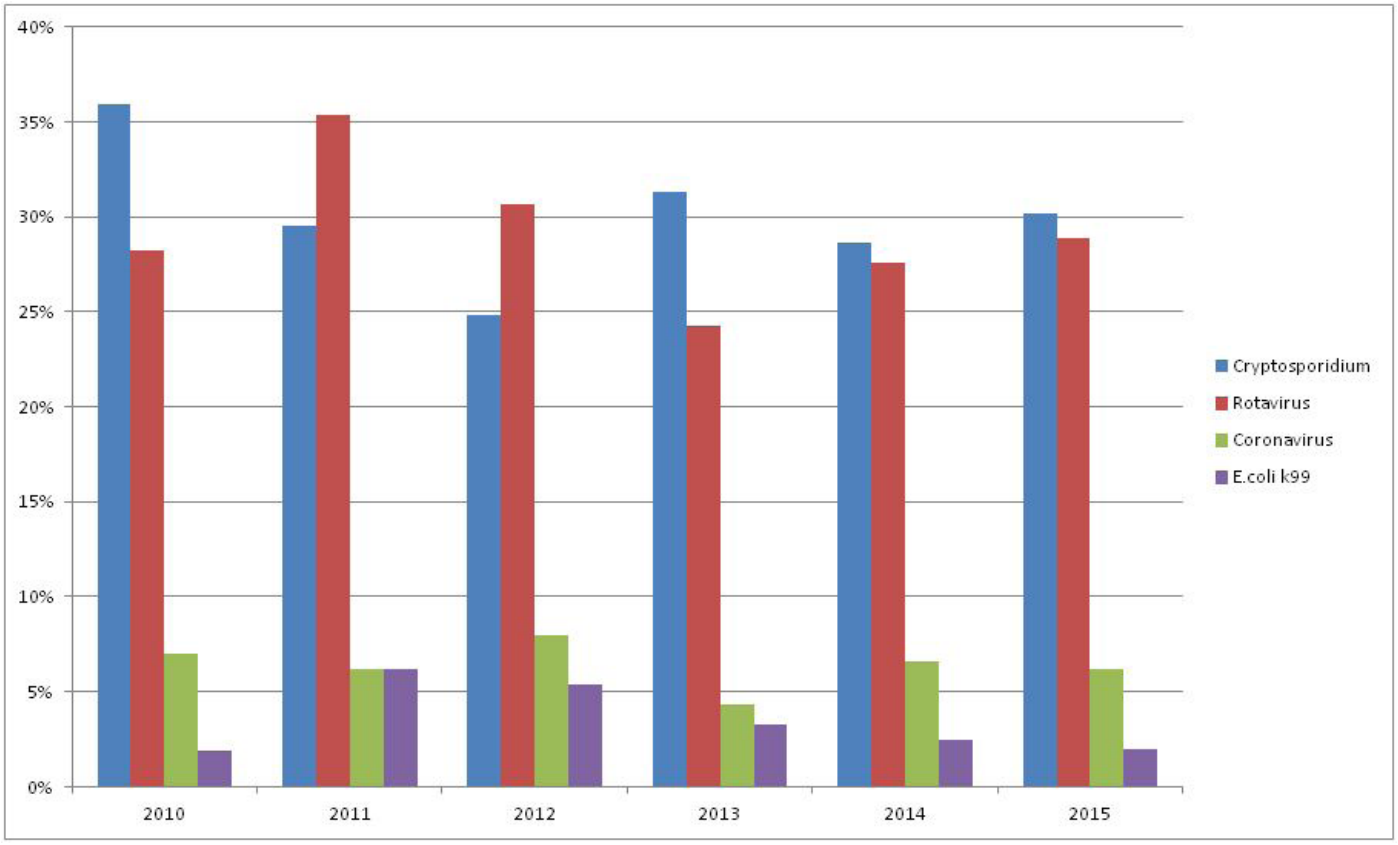
Disease spotlight: Jaagsiekte

Jaagsiekte (ovine pulmonary adenocarcinoma) is a commonly diagnosed disease of sheep submitted for post mortem. In 2015 it represented 29% of all respiratory disease diagnoses and accounted for 3.8% of all ovine submissions (excluding abortions). Jaagsiekte is a contagious retroviral pulmonary tumour of sheep usually seen in animals 2-4 years old, but may be seen in sheep as young as 2 months in heavily infected flocks. No method of treatment is advised. Control should be based on regular inspection of adult sheep. Those showing signs of weight loss or respiratory illness should be isolated and examined by a veterinarian. Unfortunately there is no blood test for Jaagsiekte and early cases are difficult to diagnose. The "wheelbarrow" test will only show advanced cases which will already have shed a lot of virus. Prompt culling is advisable to reduce exposure of other sheep to infective respiratory fluid discharges. These occur especially during feeding when the head is lowered. Offspring of affected ewes frequently develop Jaagsiekte as virus from the affected ewe will infect the lamb early in life. Consideration should be given to prompt culling of these also. The disease is notifiable in Northern Ireland.

Investigation of neonatal calf enteritis:

Large numbers of faecal samples are submitted to AFBI laboratories each year from farms across Northern Ireland for investigation of calf neonatal enteritis using package A. A bacterial culture is performed on all these samples to look for the presence of enteric pathogens such as *E. coli*, and *Salmonella* spp. Samples are also checked for the presence of *Cryptosporidium* species and tested by ELISA for rotavirus and coronavirus. Samples from calves less than two weeks of age are also checked by ELISA for the presence of *E. coli* K99 attachment factors. Antimicrobial sensitivity is carried out as a passive surveillance tool on all *Salmonella* cultured and on *E. coli* samples from calves less than 2 weeks of age. This includes tests for resistance to cefpodoxime, which is an indicator of extended spectrum beta lactamase (ESBL) resistance. Bacteria that produce ESBL's are resistant to many types of antibiotic and their presence in food producing animals is monitored. Over the last six years the most commonly diagnosed enteric pathogens are

Cryptosporidium species, rotavirus and coronavirus. Including a thorough history including any treatments already given and the age of the calf will aid in diagnosis and interpretation. If you would like a faecal sample from a calf less than 8 weeks old checked for the presence of coccidiosis please let the laboratory know as this is not routinely checked for in this age group and there may be an additional charge.



A graph to show the most common diagnosis made from faecal samples submitted to AFBI for calf neonatal enteritis investigation or taken from neonatal calves at post mortem over the last six years.

Backyard Poultry:
Common Parasites: Red mite (*Dermanyssus gallinae*)

Red mites are tiny (1mm) bloodsucking mites which cause anaemia, debility and occasionally death, and are capable of transmitting disease such as fowl cholera between birds. Being nocturnal, the mites feed on the birds only at night, living in the environment during the day which means that they are difficult to spot. During daylight, a whitish powder around perch sockets and cracks in the woodwork and tiny bloodspots on eggshells may be the only evidence of infestation, however running a piece of white paper under the perch where hens are roosting at night (with the lights off) will usually result in streaks of blood from squashed mites returning from feeding.

Red mites can survive for up to six months without feeding, often living under the felt on the henhouse roof where, shaded from daylight, they will breed and can be very difficult to destroy without removing the felt. In the absence of poultry to feed from, they will happily feed from humans that enter an infected house. Mites that have not fed for some time are grey in colour but following a feed will turn the characteristic red colour. The life cycle takes only 10 days from hatch to breeding in warm weather so an infestation can take hold very quickly. They will generally cause active infection during the warmer months, from May to October, but they will become dormant during the winter so treatment to remove mites from houses now will reduce infection in the spring.

Treatment is difficult as the mite is present on the birds only to feed, and licensed synthetic permethrin products for spraying onto the birds must be accompanied by thorough cleansing and treatment of the environment. The house must be fully cleaned out, pressure washed and treated with an acaricide. Products such as Diatomaceous Earth can be used once the infestation is under control to aid prevention of further build up. Filling of cracks and crevices and replacement of felt on roofs with corrugated bitumen or corrugated clear Perspex on top of boarding will help to prevent the mites from breeding there.
The mite can be brought in by starlings and other wild birds so vigilance is important.

Mycoplasma testing:

We now test samples such as tissue, swabs and milk for *Mycoplasma bovis* using a PCR test. This test is more sensitive than Mycoplasma culture particularly for samples arriving via post or from animals that have been treated by antibiotics. The turnaround time is also faster. If culture is required we must be contacted in advance of samples being submitted to allow testing to be arranged.

Fluke forecast

The AFBI fluke forecast has been released and it is predicted that the overall risk of liver fluke infection in cattle and sheep during this autumn and winter will be high across all areas of Northern Ireland, with acute cases already diagnosed in animals examined post mortem. www.afbini.gov.uk/news/autumn-and-winter-liver-fluke-forecast-northern-ireland-2016-2017

Farmers will need to review their control measures especially in light of growing concerns regarding resistance. We have also seen recent high levels of larval stomach fluke from lambs and calves presented for post mortem examination. Heavy infestations of larval stomach fluke can lead to enteritis with haemorrhage and ulceration, with clinical signs of diarrhoea, anorexia and thirst. Mortality rates can be high in acute outbreaks.

Reminder - NI BVD Eradication Programme

When submitting blood samples for the BVD Eradication Programme for 'positive', 'inconclusive' or 'empty' ear notch samples, please ensure that the correct paperwork is sent along with the blood samples. If the AHWNI form is not available, the submission should be identified as 'BVD Eradication Scheme' so the results are set for upload to the AHWNI database. It is important to include the date of birth of calves so the correct test is carried out. Full animal ID is required for every sample sent and animal ID should be clearly written on the blood tube. Any queries about the programme should be directed to AHWNI (info@animalhealthni.com) and for any other BVD-related queries we are happy to provide advice through our regular contact numbers.

Neospora testing:

We can now offer an ELISA milk test (individual and bulk) for *Neospora caninum* antibodies at the same price as for blood. If you would like a sample tested please advise us in the "Additional tests not selected overleaf" section on the front page of the submission form.

Appeal from PAW NI:

The Partnership for Action against Wildlife Crime in Northern Ireland (PAW NI) consists of a number of statutory and non-government organisations who work in partnership to reduce wildlife crime by raising awareness and promoting effective enforcement. PAW NI would like to remind veterinary staff that birds of prey are protected by law in Northern Ireland and suspected incidents of wildlife crime against birds of prey, including shooting, poisoning and trapping, should be reported to PSNI by calling 101. (For example any bird of prey proven to be shot should be reported to PSNI). For your own records please request the Command & Control number from PSNI for the incident. Birds of prey are predators at the top of the food chain and are an important component of our ecosystem. They are also important indicators of the general state of our biodiversity and health of our environment. Persistent killing of birds of prey can result in local population extinctions, and if carried out more widely, in regional and national extinctions.

For more information see www.wildlifecrimeni.org

YOU CAN FIND CONTACT NUMBERS FOR DSIB @
www.afbini.gov.uk/articles/office-hours-and-contact-numbers