Nematodirus in Lambs

Bobby Hyde *Nematodirus* can be a crippling disease of lambs, and can result in enormous production losses, as well as deaths. *Nematodirus battus* is a roundworm that causes diarrhoea in young lambs during late spring and early summer, and has an interesting life cycle that is quite different to many other sheep worms.

The life cycle of *Nematodirus* starts when an adult worm within a lamb's intestine lays eggs, which are then excreted in the faeces and contaminate the pasture on which the lamb is grazing. These eggs will remain on the pasture over winter, so if one year's crop of lambs has had the disease, the pasture will remain contaminated to the next year. The eggs are triggered into developing into larvae under very specific temperature changes, when there is a cold snap of weather followed by a period of warmer weather, and the larvae can then infect any lamb which might pick them up during grazing. The larvae develop inside the lamb into adults, which then shed eggs back into the environment to contaminate it and start the cycle again.

Development of Nematodirus relies on a cold snap followed by warmer weather. Picture below courtesy of XLVets.

Nematodirus can cause severe damage to lambs' intestines, and affected groups can have signs of severe diarrhoea, depression and dehydration, as well as deaths. Because the development of the eggs into infective larvae depends on a very specific environmental temperature change, a huge number of eggs can all develop into infective larvae on the pasture at once when conditions are right, meaning lambs can be exposed to an enormous number of larvae at a specific time point. Because of this, there can be absolutely no delay in treatment if *Nematodirus* is suspected, and your regular vet should be contacted to discuss the best course of action before any more damage occurs.

There is, however, an advantage to this pattern of infection - as the parasite is so dependent on weather patterns in order to become infectious, it is possible to forecast the level of *Nematodirus* risk from year to year. The NADIS parasite forecast is an excellent service which is freely available online, and provides a monthly, weather-based estimate of risk levels for *Nematodirus*, as well as other parasites. This forecast is now complemented by a new interactive SCOPS map that allows greater precision in predicting risk by giving very localised data that is updated daily.

The main risk factors for lambs being affected by *Nematodirus* include:

- A sudden cold snap followed by a period of warm weather.
- Young lambs which are eating a lot of grass (e.g. 6-12 weeks old. Adult sheep are very resistant to infection).
- Lambs grazing pasture that was used for lambs the previous year.
- Lambs under other stresses, or under challenge for coccidiosis (if a high-risk *Nematodirus* period coincides with a high-risk coccidiosis period, i.e. when lambs are 4-8 weeks old, very severe mixed infections can result).

The main method of preventing *Nematodirus* problems involves avoiding contaminated pastures which might have been grazed by infected lambs the previous season. Targeted treatments with a white drench can also be used, and are usually given three weeks apart during May in normal risk years, although as always with worming animals, it is vital that it is performed correctly in order to reduce the increasing levels of resistance in worms. The treatment plan is of course hugely dependent on the risk forecast, and higher risk years will require very different protocols to a low risk year. It is essential to keep up-to-date with the latest parasite forecasts to make sure animals get the correct treatments for each season, and ensure the disease is stopped in its tracks.

Pasture grazed by lambs last year may be contaminated with Nematodirus. Picture courtesy of XLVets.

For monthly parasite forecasts, as well as lots of other information, visit www.nadis.org.uk. The interactive map is available at **www.scops.org.uk**.

WELCOME TO farm news 2016

MAY 2016

Are you interested in having your beef or sheep enterprise benchmarked for FREE?

Sarah Hughes BSc (Hons) BVet Med MRCVS

Although beef and sheep producers often have very little control over the prices they get for their cattle or lambs, they can go some way to controlling their costs of production. In order to do this, however, production costs and performance need to be monitored.

AHDB (formally EBLEX) provide a free service called Stocktake. This gives detailed and accurate information on the financial efficiency of a commercial enterprise, allowing farmers to monitor and benchmark their performance. Data is collected from participating beef and sheep enterprises, and is used to draw cost and performance comparisons between similar enterprises. Comparisons can be made down to net margin level, and at individual enterprise level for mixed farms. This secure service is open to all English levy payers at no extra cost.

In order to collect the data, a trained regional officer will spend around half a day assembling the basic costs information with the farmer. Once the data has been analysed the farmer will receive a report highlighting the strengths and weaknesses of their enterprise compared to similar ones across England. Regional officers are available to help farmers interpret the results and to guide them towards sources of information enabling them to make positive changes.

If you are interested and would like more information on this service please contact **stocktake.info@ahdb.org.uk**.

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Welcome to Esther

More good news this spring! Carolyn's little girl, Esther May Baguley, arrived safely on 2nd March weighing 6lb 14oz. Mum, dad and baby all well and happy!

Welcome to Mark

Many of you will have met Mark Challoner already, who will be with us on the farm team for a year, covering maternity leave. Mark graduated from the University of Liverpool in 2013. Since graduating he has worked solely in farm animal practice, initially in Cornwall and then in the Lake District. He grew up on a sheep farm in Cheshire and spent time dairy farming in New Zealand before going to university. He has particular interests in cattle surgery and youngstock. Outside of work, Mark spends as much time as possible rock climbing and is looking forward to getting out climbing on the local gritstone.

Bluetongue this year

DEFRA is urging farmers to be vigilant for signs of bluetongue this spring and summer, and report any suspicion of the disease, following the recent publication of a risk assessment suggesting that the UK could be at risk of an outbreak this year. The virus is currently circulating in France, and may arrive in the UK via infected midges being blown across the channel. Current estimates put the risk of a disease incursion in a cool spring at 5-10%, later in the summer at 33-60%, and at 60-80% by the end of the summer. It's very uncertain at the moment, though, and risk estimates will change as the year goes on and weather patterns etc become clearer. Do speak to one of the vets for more information, or if you'd like to chat over whether vaccination is the right choice for you this year.

Carolyn Baguley MA VetMB CertAVP (Cattle) MRCVS

Cattle Worms: A Risk Assessment

Over the next three months, we'll be thinking about gut worm control in cattle in the newsletter. Depending on the weather, the peak season for production loss and disease caused by worms is from June to November, but larvae on pasture start building up some time before this.

This month we'll consider how to risk assess a farm for worms, next month we'll look at diagnostic tests and how they can help us to monitor and control worms, and then in July we'll think about treatment, particularly targeted treatment of groups and of individuals.

Take some time this month to reflect on how effective your worm control has been over the past year, and form a plan for this coming year. It's useful to map the farm at the beginning of the grazing season to determine the use of pastures (particularly in terms of parasite risk), when aftermaths will become available and which classes of stock will be moved there. If your pastures are permanent, you'll also want to decide (in conjunction with your vet, of course, as always!) whether you want to use wormers strategically or therapeutically:

- **Strategic** use involves using wormers early on in the season (starting at or within three weeks of turnout) to minimise pasture contamination with worm eggs from the beginning. If egg output is suppressed until mid-July, the risk on these pastures during the rest of the season will be relatively low.
- **Therapeutic** use involves more of a wait-and-see approach. If no measures have been taken to limit pasture contamination early on in the grazing season, either through pasture management or wormers, grazing cattle will be exposed to ever-increasing risks of production loss and disease as the season goes on. To combat this, either tactical treatments can be given to at-risk groups in anticipation of losses, or stock can be closely monitored and then treated when they start to show signs of ill-thrift or diarrhoea. The disadvantage of the latter approach is that, by the time disease occurs in some animals, many will already have suffered significant production losses.

When planning your grazing, it's useful to use a risk assessment tool like the table opposite to help you decide how risky particular pastures are for gut worm infestation, and therefore when or how they should be grazed. Don't rely on just one indicator - there are various factors to be taken into account when deciding if a paddock is high, medium or low risk. It's ideal to only graze low-risk pastures, but sometimes this isn't possible. If you know a pasture is high-risk, though, you'll know you need to monitor stock more closely and take preventative measures sooner - forewarned is forearmed!

Risk Factor	High Risk	Medium Risk	Low Risk
Age or grazing season	<1 year, or 1st grazing season	1-2 years, or 2nd grazing season	>2 years
Age at turnout (for 1st grazing season)	<6 months	6-8 months	>8 months
Weight gain 2 mths after turnout (if <2 yrs old)	<0.7kg/day	0.7-0.8kg/day	>0.8kg/day
Faecal worm egg count 2 months after turnout (eggs/gram)	>200	50-200	<50
Herbage mass (kgDM/ha)	<1000	1000-2000	>2000
Sward height (cm)	<4	4-8	>8
Field type	Permanent pasture (see next row for further details)	Silage/hay aftermath	Newly sown, ungrazed leys
Grazing history of permanent pasture	Grazed by cattle <1year old within last year	Grazed by cattle 1-2years old within last year	Grazed by adult cattle, sheep* or other species within last year
Bulk milk tank *O. ostertagi* antibodies (dairy herds)	>0.8	0.5-0.8	<0.5

Table adapted from BCVA Control of Cattle Parasites: Bringing it all Together (2015)
*NB mixed grazing with sheep can reduce the risk of gut worms but will increase the risk of liver fluke if fluke is present on the farm.

Genetic resistance to TB, and other AHDB Webinars

Marco Winters from AHDB Dairy Genetics hosted a webinar in March looking at how the new 'TB Advantage' index has been developed and how it can be used for future breeding decisions.

We know that bovine tuberculosis (bTB) is affected by an underlying degree of genetic resistance in cattle, and the webinar explained how the availability of bTB bull proofs is expected to contribute to long term improvements in the national TB situation. The presentation, along with a whole host of other interesting webinars, is available on the AHDB Dairy YouTube channel. Go to the AHDB website and follow the 'Events and Webinars' or the 'Previous Webinars' link.

New genetic disease in Holstein cattle

Since last year, APHA have been investigating cases of a new genetic disease in Holstein cattle, known as Haplotype cholesterol deficiency (HCD).

Holstein UK is producing a list of known carriers and awareness has been raised, so eventually cases of HCD should reduce. Further cases may yet be seen though, especially if an as yet unidentified carrier is involved. The disease affects three week- to five month-old Holstein calves, causing marked condition loss and unresponsive diarrhoea with no diagnosable cause, leading to death. If you are concerned, or think you may have a case, do get in touch.

Picture courtesy of XLVets.