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AUTUMN 2016

# Livestock MATTERS

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## Inside this issue:



XL Vets Farm

BVD Free

ENGLAND

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## AUTUMN EDITION

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THE EDITOR

# Welcome to the 'Autumn' issue of Livestock Matters

Welcome to the Autumn issue of Livestock Matters. In this edition we look at herd fertility from a couple of perspectives; Anna Patch demonstrates how setting targets for herd fertility has improved performance in one herd, while James Marsden explains the importance of bull fitness and fertility.

The death of an animal is a devastating loss to any farmer; however, Lee-Anne Oliver's article encourages the use of post-mortem investigations to identify the cause of unknown deaths. Such investigations can prevent unnecessary veterinary treatments or provide vital information for further disease prevention within the flock or herd.

Bryony Rowe discusses some of the diseases that can be inadvertently introduced into a flock when buying in. She explains the importance of a quarantine period for newly arrived stock. We also consider Johne's disease with Kate Brodie detailing the planned approach taken by one farmer to control the disease within his herd.

We hope you enjoy this issue of Livestock Matters.

Joanne

**Joanne Sharpe**
Editor

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# Gamekeeper day

**Hazel Goodwin,** Lambert, Leonard & May

Lambert, Leonard & May held a Game Day on the 25th of May, in conjunction with Checkley Wood Shoot and Huvepharma for XLVets practices. XLVets member practices were invited, along with their gamekeeping clients, to have a discussion about good management practices and biosecurity in the release pens. We had attendees from Severn Edge, Rutland, Midshire, Willlows, Glenthorne and Wright and Morten.

Ivor Beavis, from Checkley Wood Shoot welcomed us to the lodge and we filled up on sandwiches before heading out to his rearing field. Richard Byas, from Sandhill Vets, lead the 'Walk and Talk' and focussed on the importance of sourcing good poults. Various topics were discussed, including water quality and temperature, stocking density, coccidiosis and disease control. Specific emphasis was placed on the reduction of the industry reliance on antibiotics.

Dr. Richard Byas, Sandhill Vets

We also had the opportunity to view the breeding hens. Nick Beavis, who heads up the breeding and rearing production, gave handy tips on managing the birds to produce good quality poults. There was a lot of discussion on the pathogenicity of hexamita, with Richard adamant that good biosecurity and management could reduce the disease challenge and potentially avoid the need for antibiotics to control this spironucleus.

Richard also spoke about the importance of good veterinary advice and why a vet visit to a shoot is so important. After a good couple of hours of walking and talking, we returned to the lodge for a presentation by Dr David Welchman, from APHA and President of the BVPA.

David spoke about diseases in the release pens: what to look out for and tips to improve biosecurity and reduce disease challenge. He also covered the importance of sourcing good quality, robust poults and spoke about the reasons why medication might not always be effective. David stressed the importance of veterinary advice to ensure correct diagnosis and treatments.

The discussions and questions were varied - with both keepers and vets keen to delve into further detail on the subject matter. Later on in the afternoon, it was time to let off some steam and the group joined in with the Checkley Wood Weekly Clay Pigeon Shooting Competition. It is fair to say that the keepers well out-performed the vets on the day, with Joe winning crack-shot of the day. The stands were incredibly testing, varied and there were some very high birds indeed. Checkley Wood Shoot is definitely worth a visit to get your eye in before the season.

Our thanks to Lambert, Leonard and May for a great day to improve the knowledge of both vets and keepers for the coming season. Thanks also to Ivor and the team from Checkley Wood Shoot for hosting a superb day and to Huvepharma for their support.

# BVDFree England Update - Scheme launched on 1st July

Did you know that every day an animal persistently infected with BVD (bovine viral diarrhoea virus) stays on your farm, you are losing money through reduced fertility and poor growth rates?

BVD is a highly contagious viral disease of cattle. Finding and removing BVD from your herd will mean an end to the direct costs associated with BVD infection, such as poor fertility, ill-thrift and poor production. BVD also causes immune suppression, increasing the chance and severity of secondary diseases, such as pneumonia and scours.

The BVDFree England Scheme launched on 1st July. This is the first national scheme in England, with the aim of eliminating BVD from all cattle herds by 2022.

**The Scheme uses a simple four step approach to achieve this objective, using the 'ADAM' principles:**

- Assess the level of biosecurity and disease risk on your farm,
- Define the BVD status of your herd,
- Act to remove BVD from your farm and/or to make sure you stay free
- Monitor progress with an annual status check.

Once your herd/individual animals have been tested, those test results will be uploaded onto the BVDFree database. The negative BVD status of your animals is displayed on the database, so you can promote this when trading. You can also check the BVD status of animals before you buy any new stock, so you don't bring BVD back to spread infection to your herd.

Joining all the other farmers in the scheme and working to achieve BVD free status means your herd will be recognised as BVDFree; a great way to differentiate yourself in the marketplace.

To join, please visit the website www.bvdfree.org.uk and click on 'Join the scheme'

XLVets are fully supporting the elimination of BVD from all cattle herds in England.

For more information on BVD and the benefits of eliminating BVD through BVDFree please contact your veterinary practice or speak to your vet next time they are out on farm.

You can also visit bvdfree.org.uk or follow @BVDFree England on Twitter.

# Scotland's Chief Veterinary Officer visits Northvet

## Andy Cant, Northvet Veterinary Group

Scotland's Chief Veterinary Officer Sheila Voas recently visited Northvet as part of her fact finding tour of the Highlands and Islands.

Sheila said she was impressed with the proactive approach that Northvet was taking towards animal health and welfare. She is pictured with myself and Bob Norquay having received her Northvet "Toorie" which all FarmSkills attendees are presented with.


L-R Andy Cant, Sheila Voas and Bob Norquay

CALWETON FARM

| | |
|---|---|
| Veterinary surgeon | Bryony Rowe |
| XLVets practice | Calweton Vet Group |

**BRYONY ROWE,** CALWETON VETERINARY GROUP

# Quarantine and treatment procedures after buying in new stock

Whether buying in pedigree breeding stock straight from a farm, or store lambs from market, there is always a risk of also bringing parasites and infectious diseases back with them, and infecting the rest of your flock.

Here, Calweton Vet Group's Bryony Rowe, outlines the quarantine protocols to follow and actions required to prevent unseen disease from threatening flock health and productivity.

## Risk prevention

Bryony explains: 'Ignoring the potential disease risks from buying in stock can prove to be costly. Even apparently healthy animals can be carrying some highly contagious diseases or parasites.

'Once new sheep have come into contact with the rest of the flock and contaminated the land, a new disease is not always easy to get rid of. With the extra labour required and medicinal treatments, plus reduced flock performance, costs can soon escalate.

'However, by following a simple quarantine protocol, the likelihood of introducing new diseases can be greatly reduced, and any underlying conditions are more likely to be identified and then controlled.'

There are an array of diseases that can pose a threat to flock health, this article covers the most common ones, listed in the panel below.

### Biosecurity protocols are needed for control/prevention of:

- Enzootic abortion
- Sheep scab
- Lameness
- Liver fluke
- Worms, including Haemonchus contortus
- Wasting diseases e.g. Maedi Visna, CLA

*Healthy sheep can still be carrying unwanted diseases, so quarantine protocols should always be followed*

## Enzootic abortion

'Enzootic abortion is still a common cause of abortion, despite an effective vaccine being available. Unfortunately there is no way of knowing if a sheep is carrying the infection. The bacteria that cause the disease can lie dormant until lambing time and blood tests are unreliable for diagnosing infection in individuals. So any bought in ewes should be considered a risk.'

Bryony advises: 'It is good practice to keep bought in sheep separate from the main flock until after lambing to reduce the risk of disease spread at lambing time.'

Preventive actions: If routinely buying replacements, consider vaccinating the flock or source from accredited EAE-free flocks which are listed on the Premium Sheep and Goat Health Scheme database at **www.psghs.co.uk**.

## Sheep scab

'Scab is caused by a mite living on the skin of the sheep. It is incredibly contagious and causes intense itching leading to production losses. One of the problems with buying sheep is that they can be carrying scab without showing any signs; in the early stages it is undetectable. There is also the possibility of mites being picked up from the market or transport lorry.'

Actions required: The only way of knowing for sure that your sheep do not have scab, is to treat them on arrival with an appropriate macrocyclic lactone injection, or dip them. SCOPS recommend a 1% moxidectin injection, but this must not be used in sheep that have ever had or are likely to have the vaccine against footrot. There are other macrocyclic lactone injections available, but they differ in how long they last and how many injections are required. It is best to consult your vet as to which is the most appropriate treatment.

## Worms

'Resistant worms are one of the major issues currently facing the sheep industry. Resistance to one or all of the three older generation wormers is commonplace, resulting in delayed finishing times, and wasted time and money. Even fit sheep can be carrying resistant worms, and these will contaminate previously 'clean' land.

'Another threat to flock health is the blood-sucking worm Haemonchus contortus. It is not present on every farm, but its effects can be devastating. It affects lambs and adult sheep and is seen in late summer and autumn. Heavy burdens will cause anaemia, resulting in weight loss, reduced production and death.'

Actions required: Give all bought-in sheep a complete clear out with a double wormer treatment. Use one of the new generation wormers (orange 4-AD or purple 5-SI) teamed with a macrocyclic lactone injection (i.e. the injection used for sheep scab). This is a belt and braces approach to ensure only a very small possibility of any worms surviving treatment.

It is important to keep sheep yarded for 48 hours after treatment to allow all eggs to pass out in the dung. This dung should not be spread onto any grazing pasture. Then turn out on to dirty pasture (land that has been grazed by sheep within the past 12 months) just in case any worms have survived the 2 treatments. The resistant worms would therefore be diluted amongst existing worms and they would have less of an effect than if on clean pasture.

Check out the SCOPS website **(www.scops.org.uk)** for further information on tackling wormer resistance, and discuss with your vet as to the best protocol.

## Lameness

'Quarantine treatment is one of the elements of the 5 Point Plan for lameness control and is a 'must do' for reducing levels of lameness in your flock.

'However, all too frequently contagious ovine digital dermatitis – CODD – and highly virulent strains of footrot are introduced into a flock on the feet of bought-in sheep. Some lesions can be very subtle and so some sheep may carry bacteria without showing much sign of lameness.'

Actions required: It is important to: 1) isolate sheep for at least 3 weeks so that lameness can be identified, and 2) to inspect all their feet. If footrot and/or CODD are found, treat with an appropriate antibiotic. In addition, put the group through a footbath or spray all feet with an antibiotic spray. Remember to continue to isolate until the lameness is fully resolved.

*The feet of all bought-in sheep should be inspected for signs of CODD or footrot*

## Liver fluke

'Liver fluke is a common parasite in many parts of the country. It causes weight loss and poor performance, and in many cases death. It can be difficult to treat and manage, and there have been an increasing number of reports of flukicide resistance. So if a farm is fluke free, don't let it in!' says Bryony.

Actions required: Treat for fluke during the quarantine period and if possible, turn stock out onto ground with a low fluke risk. The choice of product might vary with the time of year and the risk of bringing in resistance; consult your vet for farm-specific advice.

*Liver fluke infection in sheep is on the increase across the UK*

## Wasting diseases

'Maedi-Visna (MV) and Caseous Lymphadenitis (CLA) are both wasting diseases of which there are accredited-free health schemes. Sourcing from these flocks will reduce the chances of bringing in these diseases. Unfortunately, no such schemes currently exist for Johne's Disease or Ovine Pulmonary Adenocarcinoma, and testing for these is problematic.'

Preventive action: Private sale and knowledge of the flock of origin will give the best chance of avoiding buying in these diseases. For information on flocks which are accredited free of Maedi Visna and CLA, visit the PSGHS database at **www.psghs.co.uk.**

## Stay biosecure

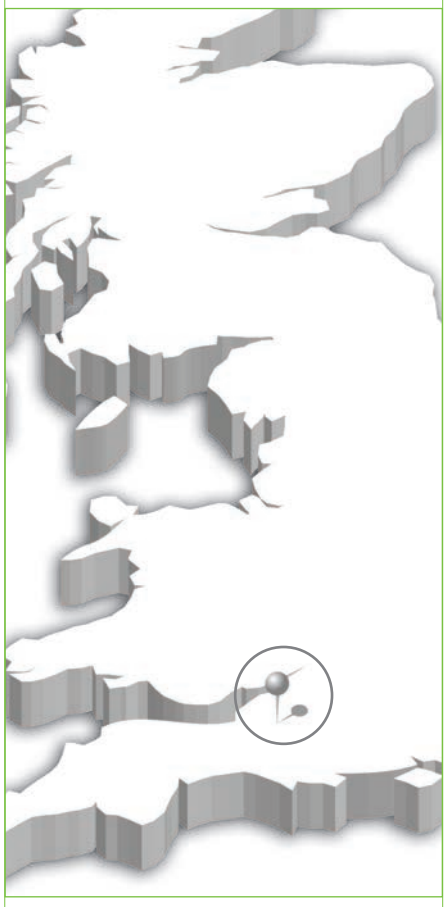
'Biosecurity protocols are part of every flock health plan and farm assurance schemes, but ignoring them puts the health and productivity of the rest of the flock at risk. So if in doubt as to whether your quarantine protocol is adequate, then discuss it with your vet and revamp the quarantine procedures for your farm,' recommends Bryony.

'Not only is it far less costly to prevent disease than to treat it, but some sheep diseases are very difficult to eradicate once they have arrived on-farm.'

ANNA PATCH, SHEPTON VETERINARY GROUP

# Target-setting drives a series of improvements to boost herd fertility

Shepton Vets' veterinary surgeon Anna Patch has helped dairy farmer Simon Bendall and herdsman Stephen Cummins to improve their herd's fertility by setting them a goal to serve 16 cows each week and have achieved an average of four pregnancies at each weekly fertility visit.



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| Veterinary surgeon | Anna Patch |
| XLVets practice | Shepton Veterinary Group |

Manor Farm near Bath is a busy mixed farm which includes a high yielding dairy herd of 180 cows, averaging 10,200 litres/cow.

The herd is run together as one in the summer and grazed outdoors, whilst the sheds are used for arable crops. In the winter, the herd is split into high and low yielders. They receive a base TMR ration and are then topped up in the parlour, according to yield.

Poor fertility, together with a Johne's culling policy, has led to a shortage of heifer replacements coming through. So to improve supply, the Hereford bull has been temporarily retired from serving heifers, and sexed semen is currently being used.

## Fertility targets

Twice a year, Anna and her Shepton colleague Paddy Gordon meet with Steve, Simon and the farm's nutritionist to discuss herd performance, health and plans for the future. 'Poor fertility has been an issue and at the end of last year, we all agreed this year's aim would be to serve more cows,' explains Anna.

*Anna PD-ing*

To help focus everyone's minds, Anna drew up a list of Key Performance Indicators (KPIs) and a whiteboard was installed in one of the sheds, onto which the results of Anna's weekly fertility visits could be recorded, and progress monitored.

Anna explains: 'There are 180 cows in the herd, and approximately 60 heifers enter the herd annually. So that means we need to generate 120 pregnancies in the cows per year. There will be some pregnancy losses so the aim is to have four pregnancy diagnosis (PD) positives each week on my routine visit. To generate these PD positives we need to be serving between 12 and 16 cows per week.'

*Anna and Simon discussing PD results*

## Better heat expression

Investigations into the reasons behind the herd's poor fertility began in earnest towards the end of last year after a particularly bad routine fertility visit in which there were too many PD negatives.

Anna explains: 'The herd was already being vaccinated against leptospirosis, IBR and BVD. From youngstock blood screening and bulk tank testing, I knew there were no PIs in the herd – infectious disease was well controlled.

Blood samples were taken from dry cows and fresh cows to check their trace element status.

Results revealed that cows were indeed low in copper, and also iodine. So in November 2015, every animal in the herd was given a mineral bolus. Amongst the milking cows, this led to a slight improvement in heat expression.

Anna comments: 'After the blood sampling had taken place, we noticed several of the cows had clinical copper deficiency: 'spectacles' around the eyes, through hair loss. The soil in this area is high in molybdenum and hence so is the forage. This binds copper up so it's not available to the cow.'

Six months later, in early June, it was time to consider whether another bolus treatment was needed. Wary of creating a problem of copper toxicity, Anna arranged for one of her colleagues to take liver biopsies. Copper levels were found to be normal.

However, iodine levels were still low. 'We put this down to the late lactation cows not having as much cake, and so not getting their iodine requirements from that,' explains Anna. 'So, for the dry cow group, I prescribed an off-licence treatment of the water with potassium iodide, to make up the deficiency before they calved.'

## Better heat detection

Steve says: 'We are now spending more time observing for heats. Someone will now check the cows after lunch which we never used to do before. And there's a whiteboard in the dairy where people can record cows seen bulling.

Anna adds: 'Although everyone is being more vigilant, and Simon and Steve take turns making night time checks on the herd, high yielding cows are often only on heat for a few hours, or may have silent heats.

'So it's not enough to just look for cows standing or mounting. Other signs to watch for are sniffing, a drop in milk yield because the cow is holding milk back, or waiting to see which cows go and stand down the end of the shed where they can see the bull! In fact, having a bull around is a good way of getting cows to show when they're on heat.'

Scratch cards had been used in the past as an aid to heat detection, and following the joint meeting, it was decided that tailpaint would now be used. It can be applied very liberally and is easier to see! This has helped identify animals on heat but not seen bulling.

*Tailpaint*

## AI technique improved

If using frozen semen then AI technique will also have an influence on a herd's fertility statistics, as will how the semen is handled before it goes into the cow.

At Manor Farm, inseminations are carried out by Steve, except once a fortnight on his weekend off, when cover is provided by a specialist third party company.

Steve had learnt how to AI on a course back in 1999, and had done one refresher course since then, inseminating live cows with straws of coloured dye, and then looking at the results using an ultrasound scanner.

Anna explains: 'More cows were now being served through better heat detection, but this disappointingly wasn't resulting in that many more pregnancies. So I tentatively suggested to Steve that he might like to have a refresher AI session. And was relieved he didn't take offence, and agreed to once!'

In June this year, Anna gave Steve a one hour one-to-one training session: she watched his methodology using some actual cows' uteruses so he could 'see' what he was doing.

Anna says: 'Over time, the recommended techniques for AI have changed. Steve was really careful not to put the gun in too far. But he'd been taught to release the semen as he withdrew the gun. This meant less semen was deposited in the ideal place. So I've shown Steve a better technique and advised him take more time to warm the gun.

'Also, the temperature of warm water can fall, even on a warm day. So I recommended the purchase of a thermostatic water bath to ensure semen quality doesn't suffer.

'Another small improvement, still to be made, is to improve the lighting above the liquid nitrogen container, so that straws don't have to be lifted so far out of the freezing zone.'

*Thermostatic water bath*

## Next steps

Anna would like to see the farm invest in activity collars, as a next step in improving the spotting of heats. But Steve says he and Simon want to make sure everything else is right before making that move.

It will take time for the full impact of all the changes to be reflected in the herd's fertility statistics. However there have already been improvements in heat expression and target-setting has helped focus effort. Measurable improvements that have been seen so far include: the 3-month rolling conception rate is currently 35%, up from 29% a year ago; the pregnancy rate (% of cows eligible for service that conceived) is currently 18%, up from 12% last year. At the last milk recording, half of the herd was recorded as in-calf, a figure that has been running at around 40% for years.

Anna adds: 'These are high yielding cows and changes to their routine like TB testing or dietary changes can upset them. I'm now seeing around four pregnancies most weeks, but I'd like to see this target being met more consistently.'

*Steve keeping figures up to date*

DROVE FARM VETS

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| Veterinary Surgeon | Kate Brodie |
| XLVets Practice | Drove Farm Vets |

**KATE BRODIE,** DROVE FARM VETS

# Johne's disease: find your herd status and start a control plan

Vet Kate Brodie of Drove Farm Vets would like all her dairy farming clients to test their herds for the presence of Johne's disease. One starting point is a simple milk screening of 30 cows. It doesn't cost a lot of money and will enable a control strategy to be put in place to prevent the spread of this performance-depressing disease.

'Johne's is a disease that farmers often don't want to discuss' says Kate. 'But it's a disease that is not easy to eradicate and ignoring it is not the way forward.

'It is a very important disease to get under control due to its immuno-suppressive effect: Johne's positive cows tend to have higher SCC, are more likely to get clinical mastitis, suffer from lameness and may have lower milk yields too.

'So if the disease is present, the sooner this is known, the sooner control strategies can be put in place.'

## Testing

Johne's disease is an 'iceberg' disease – for every one clinical case, there will be 10-20 animals that are Johne's positive at sub-clinical levels (ie not showing visible signs).

It is caused by *Mycobacterium avium* subspecies *paratuberculosis*, commonly referred to as MAP. It progressively damages the intestines, and causes diarrhoea and weight loss.

MAP is shed in the dung, but not continuously. Similarly, antibody presence in the blood is variable. Plus, the clinical signs of infection only become apparent as cows get older.

'This is why quarterly milk testing on an ongoing basis, is needed,' says Kate. 'This can be done for the whole herd, or alternatively, to start with, on a selection of 30 animals most likely to be Johne's positive – older cows, and those with high cell counts, lameness or cases of mastitis.

'Animals can test Johne's-negative, and then become positive as the disease takes hold. This is what makes the disease so tricky to eradicate from a herd.

'But once a cow has had a positive result, then she should be kept on the farmer's radar, whatever the next result says!'

## Control focus

The predominant transmission route is faeco-oral as the newborn calf ingests MAP from Johne's positive cows, from muck on the teats or in the bedding. Milk and colostrum from infected dams are another source of MAP infection.

*Good quality colostrum from Johne's free cows is frozen to feed calves snatched at birth*

'So control of Johne's requires a focus on the management of Johne's positive cows and all newborn calves,' says Kate.

## Control strategies at Hook Farm

One of Drove's clients who is facing up to the long term challenge of eradicating Johne's disease from his herd is Richard Woolford, of Hook Farm near Royal Wootton Bassett.

Here, 240 cows are milked giving 10,500 litres/cow on an all year round calving system.

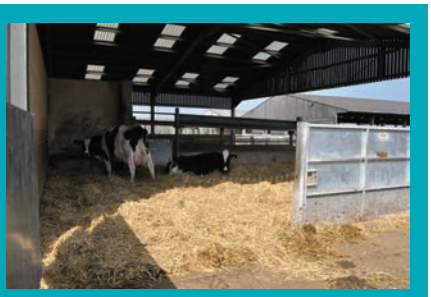
'I can understand why some farmers are reluctant to look for Johne's,' says Richard. 'It might open a can of worms! It's certainly a long term battle. We've been working at it for 10 years, stepping up the process over the past 5-6 years. We are making progress!'

The first cases of Johne's disease appeared on the farm around 12 years ago. Classically, it was in cows that had just calved; they started scouring, losing body condition and coat condition. They were still eating, but milk yields were lower than predicted.

Richard explains: 'We had conversations with our vet, we knew we needed to do something.'

A 30-cow screen was carried out by Richard's milk recording company and more Johne's positive animals were found. So quarterly milk testing of the whole herd was then instigated, and cows are ranked as 'high' or 'medium' positive for Johne's.

Kate explains: 'Where a herd has low numbers of Johne's positive animals then they could be culled out, as they are identified. But in Richard's case, a longer term approach was needed.



*The new calving area for Johne's positive cows AND all the progeny of Johne's positive cows*

The herd is kept closed, and all Johne's positive cows are bred only to beef sires, so none of their progeny enter the milking herd.

Snatch-calving is also carried out on calves of Johne's positive cows. Kate explains: 'This helps prevent the calf from suckling colostrum that is infected, but more importantly it removes that calf from the environment contaminated with potentially MAP-infected dung.'

## Separate calving area

Recognising the need to keep all newborn calves away from Johne's positive cows, but with no separate space available, Richard initially tried leaving the Johne's cows in the cubicles for longer. Then moving them in with the 'hospital' group of milkers to calve. 'This was quite a compromise though,' explains Richard. 'They weren't getting the transition feed, and it was extra work having them mixed in with the milkers.'

In 2012, a better opportunity presented itself. A new building for the parlour and dairy was being built, which included a covered collecting yard and handling area. The design left an unused corner and Richard has turned this into a straw-bedded covered area and yard especially for Johne's positive cows.

Richard explains: 'It's away from the main calving pen, but still easy to keep an eye on the cows. It has made Johne's management so much easier, and cows can receive their transition ration too.'

*The original calving area – now only houses cows and heifers with no family history of Johne's disease*

Richard has taken a 'belts and braces' approach, and also puts the daughters of Johne's positive cows into this new calving area. Some of these daughters may not have been snatch-calved and there is a small risk they may go on to test Johne's positive.

## Keeping track

Some farms use red ear tags or coloured leg bands to identify Johne's animals. Richard explains: 'I'm not keen on the tags as these can get lost, and we already use different coloured leg bands for mastitis management. Besides, it's the ear tag number or freeze marks that we look at when drying cows off or selecting semen straws.'

So at Hook Farm, Johne's positive results are recorded on the Interherd software programme as a ++ or + after the animal ID, to denote high or medium infection.

As it can take several years for the disease to appear, Richard also keeps track of the progeny of Johne's positive cows on the system. They are identified with a ** or * after their number.

*The Johne's status of all cows can be seen on the office noticeboard*

Lists of all the cows are then pinned up onto the office noticeboard, with a fluorescent pen used to further highlight the Johne's cows making it easy for all staff to check the status of any animal, and follow the appropriate protocols.

Kate adds: 'Richard has created his own system which works well for his farm. Drove's DEW Club monthly report also includes lists which highlight the Johne's positive cows due to calve or be served, as an aid for farmers.'

## Every farm

Kate says: 'Milk buyers are starting to demand that farmers find out their herd's Johne's disease status. But every farm should know this anyway!

'The main transmission route for Johne's disease is the faeco-oral route so management of the calving cow is key to preventing its spread. However the strategy and tactics taken will vary from farm to farm.

'Richard had the luxury of space to make a calving pen for dry cows with a Johne's record. But everyone can do something once they've started testing and are finding Johne's positive animals. The establishment of policies for the breeding, calving and culling of Johne's positive animals is a good start on controlling this insidious disease.'

# Post-mortems can be positive for profit and performance!

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| Veterinary surgeon | Lee-Anne Oliver |
| XLVets practice | Scott Mitchell Associates |

## Lee-Anne Oliver, Scott Mitchell Associates

There's a cost to having a post-mortem carried out on a dead animal. But there's frequently a benefit too. Here, Lee-Anne Oliver of Scott Mitchell Associates, near Hexham, outlines some of the benefits and gives an insight into some recent findings in a new XLVets scheme.

### Why bother with a PM?

Lee-Anne explains: 'Post-mortems enable diagnoses to be made of tyre wire disease, coccidiosis, nematodirus, ruptured uterus, twisted gut, lamb dysentery, poisonous plants, acidosis, internal abscesses, fluke, Johne's disease, and ruptured bladders, to name but a few examples.

'But also, post-mortems can often lead to other significant conditions being identified, which might not be the cause of death but are valuable to know. For example, revealing a fluke infection when the cow died of staggers. Post-mortems of cull ewes can be particularly useful in identifying Ovine Pulmonary Adenocarcinoma (OPA), Johne's disease or presence of fluke.

'Knowing the cause of death may provide the opportunity to treat other susceptible animals in the herd or flock and protect their health and performance. It may also prevent money being wasted on administering the wrong medicine, or identify when a change in management is needed.

'A high percentage of post-mortem examinations can provide a cause of death on 'gross examination' or require only limited further testing in the vet practice's own laboratory. So the cost is often not that high versus the value of information that can be returned.

'However, some pathogens, e.g. for pneumonia or scour, will need samples to be submitted to a lab for further testing to identify the specific pathogen eg RSV or rotavirus.'

### XLVets post-mortem initiative

Lee-Anne is involved in running a new post-mortem scheme set up by XLVets which will ultimately help provide information for regional disease forecasts e.g. the first case forecasts of nematodirus or liver fluke in an area. The database will also serve as a learning resource for vets and their farm clients.

Lee-Anne explains: 'Vets upload their post-mortem reports and these are collated monthly and shared with all XLVets practices. These results are provided anonymously and just give a regional location.

'Of the post-mortem reports submitted to date, 75% have enabled diagnoses of the cause of death to be made on gross examination alone.

'All PM reports submitted to the initiative will be stored for later use. These documents are useful when planning vaccination programmes and making health plans.'

### Maximising success

To maximise the chance of a successful diagnosis, carcases need to be as fresh as possible – less than 24hours old. For abortion cases, the placenta is needed as well as the foetus.

'Many of the APHA sites have shut down and so many farms are a long way from government laboratories and subsidised PMs these days,' says Lee-Anne. 'So farmers should find out what their options are, ready for the time when quick action is needed.

'Some deadstock centres offer a PM service which takes the hassle out of taking a dead beast to the nearest APHA! But as a first step, farmers should talk with their vet. Sometimes, if a vet is already on the farm then an initial examination can be done promptly.

'There is an argument that all stock that die on a farm should have a post-mortem to build up a disease profile. For example, when investigating pneumonia, examining one dead animal can provide the answer instead of taking samples from live individuals. Similarly, it's also the case with ticks, parasites, Johne's, and OPA in sheep.

# Example cases

Below are some summaries of recent findings from post-mortem examinations collected through the XLVets scheme.

## Case 1:

**An adult lactating dairy cow was found dead with no previous history of ill health.** Post-mortem examination revealed multiple lesions on the heart valves and chronic scar tissue, and adhesions between reticulum and lower left abdominal wall. There was a small abscess in the wall of the reticulum which contained a 5cm length of sharp wire. A magnet in the reticulum was covered in wire and metal shards.

Tyre wire disease was listed as the fourth most common diagnosis at post-mortem of adult dairy cows in a retrospective study carried out by SAC Consulting. On this farm, the examining vet commented that the magnet seemed 'full' with metal and that administering another magnet to older animals should be considered.

*In a high percentage of PM cases, the cause of death can be determined from gross examination alone without needing laboratory tests*

## Case 2:

**A six-week-old male Texel cross lamb** was recumbent for 3 days before death despite treatment with antibiotic.

On post-mortem examination, pericarditis was found to be the cause of death – this is swelling of the fluid-filled sac that surrounds the heart. There had been a high lamb mortality rate in the flock this year and a number of post-mortem examinations had been carried out. Pasteurellosis had been the cause of death in the majority of cases. Pericarditis in this case could be attributed to pasteurellosis.

Although ewes had been vaccinated with a multivalent clostridial vaccine 4-6 weeks pre-lambing, the passive antibody transfer would not have provided long-lasting protection for the culprit bacterium in this case. So following the results of the PMs, it was recommended that next year, lambs be vaccinated at 3 weeks of age.

## Case 3:

**A three-year-old dairy cow in late gestation** was presented for examination with generalised weakness and muscle tremors. The cow did not respond to treatment with magnesium sulphate and died soon after.

Post-mortem examination revealed a uterine tear and the calf free in the abdomen. This is likely to have happened from a fall or trauma to the abdomen.

## Case 4:

**A carcase of an eight-week-old mule lamb** was found to have a faecal worm egg count of Nematodirus of 1,650 eggs per gram. Fifteen lambs in a group of 80 were scouring. They had not received any anthelmintic treatment this season.

There were a number of cases of Nematodirus diagnosed at post-mortem, during May and June. In this case the farmer was advised to worm the group with a benzimadazole product and submit a faeces sample for analysis 10-14 days later to check the efficacy of the anthelmintic.

## Case 5:

**A five-day-old castrated male lamb** was found dead.

Lee-Anne explains: 'It took me less than ten minutes to discover it had a ruptured bladder, and damaged kidneys. The cause was found to be the castration ring, which when applied had trapped part of the lamb's urethra, and it had been unable to pass urine. The farmer had been preparing to administer antibiotic treatments to all lambs thinking it was a disease, but in fact, it was a practical management error.

*Diagnosing the cause of death of one animal, can provide the information to protect the health and performance of the rest of the flock/herd*

### Post-mortems:

- Can sometimes be the only way to reach a correct diagnosis
- Can lead to a more targeted approach to treatment and prevention
- Can save money in the long term
- The fresher, the better!

JAMES MARSDEN, SHROPSHIRE FARM VETS

# Check bulls for fitness and fertility or else risk extended calving periods

Before turning any bull out with a group of cows or heifers, it should be tested for fitness and fertility, says vet James Marsden of Shropshire Farm Vets, near Shrewsbury.

| | |
|---|---|
| Veterinary surgeon | James Marsden |
| XLVets practice | Shropshire Farm Veterinary Practice |

He explains: 'One study has shown that as many as one in three bulls may be sub-fertile! Here at the practice, we collated the findings of our bull breeding examinations in 2015, including the re-testings, and more than 1 in 6 bulls had been diagnosed as unsuitable for breeding.

'Bulls may also suffer physical injuries, prior to, or during the breeding season, and some bulls may simply develop to be unfit for breeding'

*Bull fitness needs to be checked throughout the breeding period*

## Fit bull payback

James explains: 'The standard quoted is that a fertile bull should be capable of impregnating 90% of a group of 50 normal, disease-free, cycling females within a 9-week service period.

'So when bulls have passed the breeding soundness exam, we expect at least 65% of cows to calve within the first three weeks of the block, and over 90% to calve within 9 weeks.

'There are several advantages to this. In spring-calving herds, having more calves born early on means they have more time to grow before they are weaned. Their dams' milk comes from grazed grass, and not bought-in feeds.

'Industry figures suggest that for a 3-week slip from a 9-week to a 12-week calving period, there's a loss of around £7,000 per 100 cows through having lighter calves at weaning.

*The tighter the calving block, the more even the calves and less risk of disease transfer from older to younger animals*

'On top of this there are disease costs to consider. Regardless of whether calving is in spring or autumn, the tighter the block, the smaller the difference in ages of calves. So the younger calves will be less prone to contracting diseases cycled up from older calves because there has been less contamination of the environment.

'In fact, for every 3-week delay in the birth of a calf, there will not only be a higher disease challenge but a consequent increase in remedial treatments for diseases such as coccidiosis, cryptosporidiosis, or pneumonia.

'So, as well as lighter calves, extended calving periods also create a greater risk of disease which challenges calf survival rates.

'But for only around one hour's vet work, all this can be avoided by giving every bull an MOT before the breeding period.'

## The MOT

Bulls should be given an MOT or Bull Breeding Soundness Examination (BBSE) at 6-8 weeks before the start of the breeding period. This allows time to treat the bull if required, or source another. Sometimes a bull may simply need to be rested, and then re-tested.

James explains: 'It takes around one hour to make an evaluation of a bull's breeding soundness, depending on its temperament and the handling facilities! But once the vet has set up the tools required, like the microscope with heated stage for evaluation of sperm motility, then any further bulls can be tested in around 20 minutes.

'Good handling facilities and a crush which gives the ability to examine the underside of the bull, help speed the procedure.'

The BBSE covers the full range of parameters that impact on fertility and fitness.

It includes assessments of libido, body condition score (optimum range is 3.0-3.5 in a working bull) and checking for lameness. 'This is a common issue: bulls are heavy, especially the Continental beef breeds, and their feet are under a lot of pressure,' says James.

Young bulls can also be prone to 'ascending infections' from riding other animals: bacterial infection spreads up the reproductive tract and into, for example, the testes, where it can lead to pus or blood in the vas deferens which kills the sperm. Similarly, the accessory glands (which provide fluids that make up the ejaculate) can become infected.

*Lameness is a common problem, particularly in continental breeds*

'Size does matter! A scrotal circumference of 34cm is the minimum standard. But young bulls can sometimes not have the size to produce high quality sperm,' explains James.

Sperm is assessed for percentage of live versus dead sperm, motility and any morphological abnormalities. James explains: 'Any infections or diseases that increase temperature are detrimental to sperm quality. It can take a month for normal spermatogenesis to resume. Also, stress increases levels of cortisol in the blood and this has the same effect.

'Some bulls suffer erectile dysfunction, and spiral deviation is another physical feature which prevents sperm from being deposited in the right place.

'Physical injury to a bull's penis is also always a possibility.' And that was the case with one of Sam Barker's Longhorn bulls.....

## Keep your eye on the bull!

Sam Barker and his wife Claire, and parents Steve and Julie, run a 110-cow herd of Longhorn cattle on an organic all-grass system with no bought-in feeds. Boxed beef and pies are sold via the farm shop, farmer markets, and the internet.

*Pregnancy diagnosis of the spring calvers shows the herd is on-track to calve down in a compact block*

Sam explains: 'When we switched from organic dairying to beef production in 2004, our aim was to produce quality meat rather than looking for quantity. So we selected the Longhorn breed, and continued on our organic system.

'When we first started, we needed to finish animals all year round. So we ran the bull with the cows for a 6-month period, and had a very extended spring calving block.'

But following advice from his vet James Marsden, Sam accepted that he could have a short calving block and then alter the forage ration to adjust subsequent growth rates to get a spread of finishing times. Once cattle reach 24 months of age, they are allowed to finish 'at their own pace', and are slaughtered around the 28-30 month mark.

By 2008, Sam had converted the herd into a single short block of spring calving.

But then in summer 2012, one of Sam's bulls damaged its penis partway (3 weeks) into the breeding period. This was only discovered when James visited to PD the cows. It took several weeks to find a replacement bull, and ultimately led to a 2-month gap with no calvings the following spring.

From this situation, a small autumn calving herd was created, and the herd was run with two calving blocks.

However, Sam has discovered there are benefits in autumn calving. 'The farm is capable of producing good quality forage, and the sandy soil means minimal damage to the pasture over the winter. I'm weaning the autumn-born calves at 10 months instead of seven, to stop their dams getting too fat. The calves are outwintered with their mothers, thereby avoiding pneumonia risk and the extra work of being housed. I'm not seeing any growth check at weaning, and they grow faster overall,' says Sam.

'By comparison, the spring-born calves are weaned late November. This stresses them and additionally there is the stress of being housed. So there's a greater risk of pneumonia.

'So this year, I shall sell or slaughter the heifers from the spring calving group. And instead, I'll only rear replacements from the autumn calvers. The aim is to calve these down at 2 years of age, and gradually transition to a single calving block – in the autumn.'

James adds: 'This year, we PD-ed the spring-calving group 70 days after the bull had gone in and found that 75% were over 30 days in-calf. So we're on track to achieve a compact calving block.

'We are also aiming to be weaning a calf from at least 95% of heifers and cows, and finishing them at 26-30 months of age.'

James explains: 'So as well as giving all bulls a pre-breeding examination, it's also important to keep an eye on them throughout the breeding period, and watch that they remain physically fit and active.

'Sam was lucky. Having an unfit bull turned into a 'happy accident' as he discovered that calving in autumn is the best option for his herd.'

*Longhorns, despite their long horns, are a very placid breed*

FarmSkills
GROWING FARM BUSINESS SUCCESS

# Practical Guide

Welcome to our series of FarmSkills practical guides that aim to provide you with top tips and best practice advice for a range of on-farm animal health tasks.

# Safe Use of Medicines

HELEN ROGERS
FRIARS MOOR VETS

With increasing focus on the use of antibiotics in food-producing animals, it's vital that relevant farm staff have a good understanding of the proper and safe use of veterinary products.

To ensure that animals are treated effectively and safely, to protect the person administering the treatment and to ensure that your money is spent wisely, the safe use of medicines must be practised at all times . The following guide summarises some of the important points associated with the safe use of medicines.

## 1. Identify the condition you are treating, the best medicine to administer, the dose rate, route of administration and the withdrawal periods.

- Read and comprehend the medicine label! All information will be found here.
- Knowing the weight of the animal will help calculate an accurate dose.
- Ask your Vet to provide training, advice sheets and treatment protocols for all team members.

## 2. Administration of the medicine

- A clean needle and syringe should be used for each treatment.
- For medicines in an oil suspension, shake the bottle well before drawing up the dose. Do not shake vaccines vigorously.
- Do not leave the needle in the bottle after drawing up the dose required.
- Use the correct size syringe.
- Calibrate your drenching gun or vaccinator: Inject a dose into a syringe or multiple doses into a measuring cylinder. The dose rate should be within 5% of that expected.
- Ensure the safety of both the animal and administrator when treating.
- Always complete the treatment programme.

## 3. Storage and disposal

- Store fridge products such as vaccines at the appropriate temperature.
- Keep all drugs stored in brown bottles out of direct sunlight.
- Dispose of all used needles, syringes and unused medicines in sharps/ pharmaceutical waste bins.


*Medicines should be stored at the appropriate temperature*

*Calibrate equipment so that dose rate is within 5% of that expected*

# GRADUATE DIARY

**Emily Francis,** BSc MRCVS BVM&S

Torch Farm Vets

## A Year in...

**It is very odd feeling when the tutee becomes the tutor and the arrival of a new intern, means that I am officially old hat. Saying that, it's amazing how much I have learnt over the last year, how much my confidence has grown and how many cases are safely tucked away in the experience bank.**

I can now happily join in exchanges with other vets about the less than ideal scenarios that farm vets encounter far too regularly. But a vet reunion wouldn't be the same without them I guess, even if it wasn't funny at the time! I had my first solo caesarian on a heifer in July that went very much more to plan than expected and the expression of relief on my face was very obvious standing with the cow licking her live calf in front of me. The tips learnt on the new graduate course have definitely improved my success rate! However I know that I still have a long way to go; and the phrase 'you learn something new every day' will always be true in this profession. Today's happens to have been how to worm pet geese!

During the last few months I have had more opportunities to get out on routine herd health visits at a few of our dairies. Initially I found pregnancy scanning to be a challenging task. However, with perseverance, some words of advice and more experience, I'm now more accomplished… and looking forward to my solo routine visit.

With this new-found confidence I am now not only finding pregnancies but starting to age them and make plans for individual cows depending on their reproductive status.

Helping farmers get their cows cycling and back into calf as quickly as possible is essential with the dairy industry as it is and I know that all the vets at Torch are dedicated to helping our clients in whatever way we can.

### About me

I graduated from the University of Edinburgh in Summer 2015 and started my farm vet internship programme at Torch Farm Vets the following October. I am part of a large team of 17 dedicated farm vets, four TB testers and a whole host of invaluable support staff based over five sites covering North Devon.

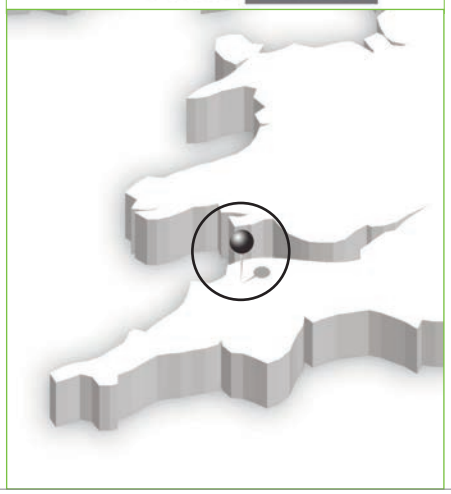
My interest in production animal medicine was well cemented before starting university and I have not once looked back on my decision to go straight into purely farm animal practice. Even on rainy days, which are a very common occurrence in Devon, I can't imagine doing anything else.

I took part in the XLVets farm graduate programme in late 2015 and it's really helped me get off the ground with clinical decision making by refreshing my knowledge and asking all those stupid new graduate questions! I met a great bunch of people and it's a great way to reach out to the wider XLVets community.

I have a particular interest in calf health, youngstock management and the prevention of perinatal lamb losses, I hope to learn a huge amount more in these areas in the following months.

Outside of work I have just joined a local cricket club to continue my keen interest in playing and coaching when I am not out walking my new Springer Spaniel 'Ted'.

TORCH FARM VETS



# GRADUATE DIARY

**Matt Raine**, BVMedSci BVM BVS MRCVS

Wright & Morten

## About me

I graduated from Nottingham in July 2015, and started work here in Cheshire just a week later. Having grown up in a sheep and beef farming family in the North Pennines, I was always farm-focused through my time at university. I was lucky enough to get the job with Wright and Morten, working in solely farm practice. Our day-to-day work is largely dairy based, however there is a good balance of sheep and beef work mixed in, which I find particularly interesting.

In September 2015 I started the XLVets Farm Graduate Scheme which involved an eight-day crash course for all aspects farm vetting. This really spurred my interest in how we can offer more to our beef and sheep clients, as with the unpredictability of the livestock industry there is increased need for efficiency.

Outside of work I enjoy shooting, getting back up to the family farm and working my unruly cocker spaniel.

# Time flies.....

**With the so-called 'summer' drawing to a close, the workload is increasing and the autumn calving block is starting to get into swing. Along with the seasonal increase, we're also seeing a number of new clients joining the practice after opening our new farm branch in July.**

It's great to get out and meet new clients, discussing what they do, and most importantly what we can offer. As part of XLVets we have access to a huge range of resources, be it individual vets' knowledge or equipment for running our own FarmSkills courses. This means we can offer the best service, and build some great working relationships with our clients. As part of this service we frequently hold talks and courses for the farm clients, and have a number in the pipeline at the moment. I'm particularly looking forward to getting some of our sheep farmers involved in the discussion groups which we are currently planning within the practice. We plan to collect and discuss production data from participating farms, and compare how the small differences in farm systems can be reflected in the data. I'm sure there will also be a competitive aspect, which I hope will encourage farmers to be as efficient and productive as possible.

It's hard to believe it's been over a year since I started working in practice, with vet school being a distant memory. We are lucky that our practice proves popular with students, meaning we usually have two around at any one time. I really enjoy taking students out with me, particularly those who are really farm-keen. Not only can the extra pair of hands be useful, it's a chance to chat through what's changed in the year since I left.

We also get a number of work experience students visiting us through the year who are looking at getting into the veterinary course. It's always nice to be able to show them a little snapshot of what we do. We try to get students out on the more exciting jobs whilst with us, as we have all taken on the role of doing paperwork at a TB test, and know how boring it can be. Surgery tends to be a particular favourite of students, regardless of their stage in the course, as it was for me. Over the last few months I've had a number of surgical cases, from standard twisted stomachs and caesareans to the more interesting such as creating rumen fistulas – something I had not come across until doing it, so it proved to be a new learning experience for all!



# FarmSkills

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XL Vets

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### Northern England

| | |
|---|---|
| 11-13 October 2016 Lancashire | DIY AI |
| 17-19 October 2016 Cumbria | DIY AI (4 day Course) |
| 18-21 October 2016 Cumbria | DIY AI (4 day Course) |
| 20 October 2016 Lancashire | Calf Rearing - Birth to Weaning |
| 21 October 2016 North Yorkshire | Breeding & Genetics |
| 28 October 2016 North Yorkshire | Nutrition (Cattle) |
| 14 November 2016 North Yorkshire | Calves/Youngstock |
| 16 November 2016 North Yorkshire | Sheep Lameness |
| 30 November 2016 North Yorkshire | Sheep Nutrition |
| 7-8 December 2016 Lancashire | 2 day Foot Trimming |

### Central and Southern England

| | |
|---|---|
| 11-14 October 2016 Shropshire | DIY AI (4 day Course) |
| 12 October 2016 Oxfordshire | Safe and Effective Use of Veterinary Medicines |
| 18 October 2016 Shropshire | Introduction to Foot Trimming |
| 18 October 2016 Herefordshire | Heifers from heifers; Rearing dairy replacements from Weaning to Calving |
| 31 October 2016 Herefordshire | DIY AI (3 day Course) |
| 1-4 November 2016 Cheshire | DIY AI (4 day Course) |
| 2 November 2016 Derby | The What's, Why's, When's and How's of Veterinary Medicines |
| 30 November 2016 Oxfordshire | Calf Rearing & Youngstock |


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Please note dates are subject to change