WORKING TOGETHER FOR A HEALTHIER FUTURE

SUMMER EDITION 2012

Livestock MATTERS

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Inside this issue:

BVD CONTROL

The concluding part of a two part series. We report on the proactive approach that several XLVet member practices have taken towards the eradication of BVD on their clients' farms.

BOVINE TB

Protecting your herd from bovine TB with biosecurity measures.

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SUMMER EDITION

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THE EDITOR

Welcome to the 'Summer' issue of Livestock Matters...

In this issue we have the second part of a two-part series on BVD which takes a look at the proactive approach several XLVet member practices have taken towards the eradication of BVD from their clients' farms.

The article focuses on the practical measures implemented on-farm and also stresses the importance of the removal of persistently infected (PI) animals from the herd, for long-term control, and ultimately eradication of the disease.

With summer upon us we also tackle the issue of flies in this issue and look at options to keep fly numbers down and minimise the stress and disturbance they can cause. We also have advice from Matthew Pugh from Belmont on the late-summer feeding of dairy cows to ensure sufficient nutrient intake during this period.

As TB remains in the headlines we also look at practical measures that can be taken by farmers to minimise the risk of cattle becoming infected on-farm. We also have the latest reports from our two veterinary students; Mark is currently undertaking an exchange programme in the veterinary department of Helsinki University and gives us an insight into life in Finland.

We hope you enjoy this issue of 'Livestock Matters'.

Joanne Dodgson XLVets

SUMMER FEATURE 13

Protecting your herd from bovine TB (bTB) with biosecurity measures

Paul Rodgers, Allen & Partners Veterinary Surgeons offers some advice to cattle farmers on taking precautions against TB.

BVD Control

PART 2
OF A TWO PART SERIES

Eradicate the BVD virus and vaccinate - for best protection of herd health and fertility

Although a growing number of farmers are adopting the practice of vaccinating against BVD to protect their herd's heath and fertility, for the very best chance of reducing disease risk, it's advisable to seek out and remove any PI (Persistently Infected) animals as well.

Several XLVets practices have been helping their clients to fully eradicate BVD from their herds, in some cases obtaining funding to do so. The Shepton Vet Group ran its first BVD eradication programme back in 2006. More recently the Alnorthumbria Vet Group in Northumberland and Bishopton Vet Group in Yorkshire have run BVD control schemes managed by RAFT Solutions Ltd for beef and dairy farmers.

Veterinary Surgeon	Michael Head
XLVets Practice	Shepton Veterinary Group

Nigel Doman Dairy Farmer, Ston Easton

Michael Head Shepton Veterinary Group

Best practice disease control

A total of 19 beef and dairy farms were enrolled by Shepton Vet Group in 2006 and funding was obtained to blood test animals to identify whether any Persistently Infected (PI) cattle were present as part of a PhD study.

Dairy farmer Nigel Doman of Ston Easton was amongst those who signed onto the scheme. He runs two dairy herds, milking a total of 350 cows. Nigel had been vaccinating his cows and heifers for several years already but saw the benefits of checking whether any virus was actively circulating amongst the cattle.

Acute infection with the BVD virus can cause immunosuppression in cattle which then increases the risk of other diseases such as mastitis in adult cattle or pneumonia and scours in youngstock.

Nigel explains: 'We keep all our calves and those not reared for replacements are either sold as stores or finished. So calf health is very important to us. We thought it would be good practice to identify whether the BVD virus was on the farm.'

All Nigel's cattle were blood tested to identify levels of BVD antibodies. The results showed that although there were no PI animals, some animals were showing evidence of exposure to the virus.

Shepton Vet Practice's Michael Head explains: 'This area of Somerset has a high density of cattle so the risk of contact with BVD is high. And although seventeen of the farms on the scheme were already vaccinating, six of these were found to have PI animals in the herd.'

Biosecurity measures

Nigel continues to vaccinate his herds against BVD, and together with Michael has established biosecurity protocols to ensure that the herd remains BVD-free.

Michael explains: 'When Nigel buys in new bulls or in-calf heifers, these are also blood tested before being introduced to the rest of the herd.

'Few farms can claim to have a truly closed herd, because most people will at some point buy in a new bull. So biosecurity protocols need to be drawn up and all bought-in stock need to be quarantined and tested before joining the rest of the herd.

'For bulls, ideally blood tests should be carried out before leaving the place of sale. On arrival at the farm they should be quarantined for at least two weeks. During this time, it is recommended that they are drenched for fluke, and have a sheath wash to remove any possible campylobacter infection. An injection of antibiotic such as di-hydrostreptomycin is also advisable as this will reduce the risk of bringing in leptospirosis by removing any residual spirochaetes from the blood and kidneys.

MICHAEL HEAD

All the 19 farms that originally enrolled on the scheme are now BVD-free. Overall, its eradication has resulted in fewer abortions - 1 per 50 pregnant cows fewer - and there's also less calf disease on these farms.

Nigel Doman's cows

Vaccinations give protection

Bulk milk sample

'A BVD vaccination programme is just one element of Nigel's best practice approach to herd health,' explains Michael. 'A few years ago, several cows aborted due to leptospirosis, and there had also been some Salmonella cases in the past. So now cattle are vaccinated against all three diseases.'

Nigel explains: 'Biosecurity is difficult to guarantee. Farm boundaries are never 100% secure so there's always the risk that cattle might get out and mingle with non-vaccinated animals.

'I'd encourage any farmer who has achieved a BVD-free herd to talk to their neighbours and encourage them to investigate what their herd status is for BVD. Then measures can be taken to protect against it.

'We have definitely seen an improvement in calf health over the past years, with less pneumonia and scours. It's not possible to attribute it to any one specific change in management, but no doubt it's beneficial that there is no BVD virus on the farm.'

BVD vaccinations are carried out in combination with other jobs to make efficient use of time. Cows are all vaccinated for leptospirosis, salmonella and BVD at the same time. 'We time the heifers' double dose so that the first one is given at the same time as they are drenched, and then typically they get the second one when they are freeze-branded,' adds Nigel.

To ensure the disease has not been introduced to the herd, each year, blood samples are taken from around 20 yearling cattle to check for antibody levels. In addition, monthly bulk tank samples are taken - over time there has been a gradual decline in the levels of antibodies found indicating that the herd has not experienced any recent exposure to the BVD virus.

Michael adds: 'All the 19 farms that originally enrolled on the scheme are now BVD-free. Overall, its eradication has resulted in fewer abortions - 1 per 50 pregnant cows fewer - and there's also less calf disease on these farms.'

Nigel Doman's calves

Andrew Fisher Beef Farmer, Well House Farm

Katharine Blease Bishopton Veterinary Group

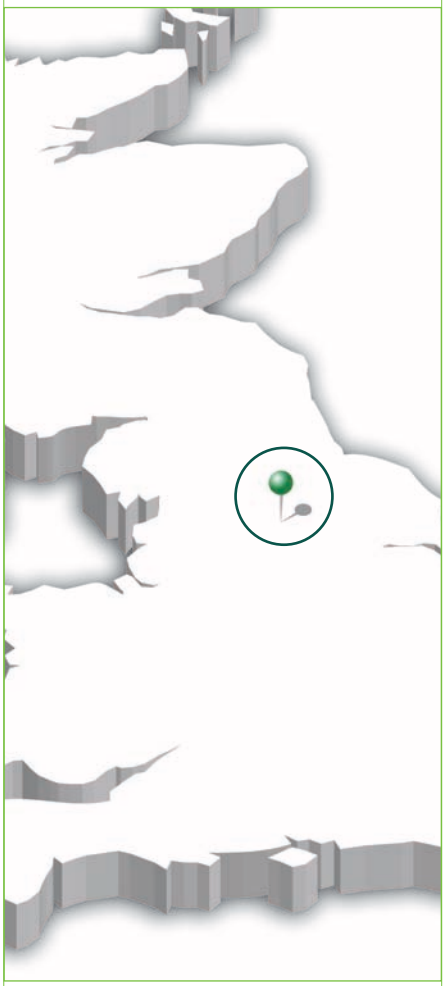
Spotting a PI (Persistently Infected) animal

In October 2010, Bishopton Vet Group obtained RDPE funding from DEFRA and the EU, managed by LANTRA LandSkills, for a BVD eradication scheme in the Nidderdale area of North Yorkshire. Bishopton vets Katharine Blease and Jonathan Statham have been co-ordinating the project, to which 10 beef farmers and 10 dairy farmers signed up.

Katharine explains: 'Four of the herds involved were found to have PI animals - these would have been actively shedding the virus and infecting their herd mates, putting them at risk of aborting or giving birth to a PI animal, and generally depressing their immunity and health.

'PI animals don't always look sick. It can be hard to believe the results sometimes when animals look perfectly normal. On one dairy farm, two heifers tested positive as PI animals despite looking very healthy. So, on request, they were isolated and the test repeated. However the initial diagnosis was correct and these animals were then slaughtered to remove the source of the virus from the herd.'

A further 10 herds in the scheme were found to have been exposed to the virus, and only seven of the herds sampled showed no evidence of BVD.



Veterinary Surgeon	Katharine Blease
XLVets Practice	Bishopton Veterinary Group

Andrew Fisher

Loss of fertility

Amongst the beef farmers who signed onto the eradication scheme was Andrew Fisher of Well House Farm near Pateley Bridge, who runs a 30-cow suckler herd of pedigree British Whites, selling the meat to a local Harrogate butcher.

Andrew was concerned that some of his cows were not holding to service, and would be calving later in the spring than he would have liked. Biosecurity was also an issue as Andrew shows his pedigree British White cattle around six times each year. At these events there was the potential for them to come into contact with BVD-infected animals.

Andrew explains: 'We go to about six shows each year, animals can pick up the BVD virus just from being in contact with others at the water troughs.'

Katharine explains: 'To determine whether a beef herd has any PI animals, the first step is to carry out a bleed of youngstock of between 8 and 14 months of age. Typically, we will sample 6 to 10 animals in a given group.

'Blood testing revealed that three of Andrew's calves had antibodies to BVD which meant that they had been exposed to the virus. So the rest of the herd was bled to see if it contained a PI animal.

No PI animals were found in the herd, however Andrew had noticed that in a neighbour's field, one of their suckler cows had a sickly looking calf with deformed eyes. Permission was asked to blood test this cow and her offspring. She was found to be PI positive, as was her calf born the previous year - both these animals looked perfectly healthy, and it was only the most recent calf that had looked a 'poor doer'. All three animals were slaughtered.

Katharine explains: 'The BVD virus affects cattle fertility in different ways, depending at what stage of pregnancy a cow or heifer encounters the disease. Exposure to the virus in early pregnancy may result in embryonic death and a return to service. Infection in early and mid-pregnancy may not cause abortion but can cause abnormal development of eyes or brain. But where exposure to the BVD virus occurs between day 40 and 120 of pregnancy then this can give rise to the birth of a persistently infected calf.

'It's probable that some of Andrew's cows were in contact with the neighbouring PI animals shortly after conceiving, which then caused early embryonic deaths and a return to service. If the encounter had happened later on in the pregnancy, then it could have resulted in PI calves being born, bringing high levels of infection into the herd. As a precaution, all the calves born that year were blood tested to check that they had not become infected by the virus.'

Katharine explains: 'Andrew vaccinated all his cattle in 2011 and we'll be waiting to see whether the cows and heifers have held to first service and calve as expected in 2012.

'We are also carrying out annual surveillance checks to ensure the virus hasn't affected the herd. We blood sample the youngstock as these have not yet been vaccinated so the antibody levels are therefore a true reflection of exposure and not a result of the vaccine. Last November we tested 6 animals per group, and results were negative.'

Heifers have their two jabs in March and April, and any new stock brought onto the farm will be isolated, tested and quarantined for 3 weeks.

'Andrew has taken pre-emptive action to prevent significant loss. If his neighbour's PI animals had infected his cows at a later stage of pregnancy, it would have led to the birth of PI calves, and created disease problems in the herd. As it happens, it looked as if the contact with the neighbour's PI cows was just at the time which prevented the cows from holding to service and resulted in a more protracted calving pattern last year. Now with the whole herd vaccinated he has every chance to achieve his aim to have each cow calving every year.

Andrew adds: 'Having a BVD-free herd is not only important for herd health, it's also a bonus when it comes to selling stock. At around £2 per vaccination, it's peanuts compared with the consequences of a lost calf.'

Best practice vaccination

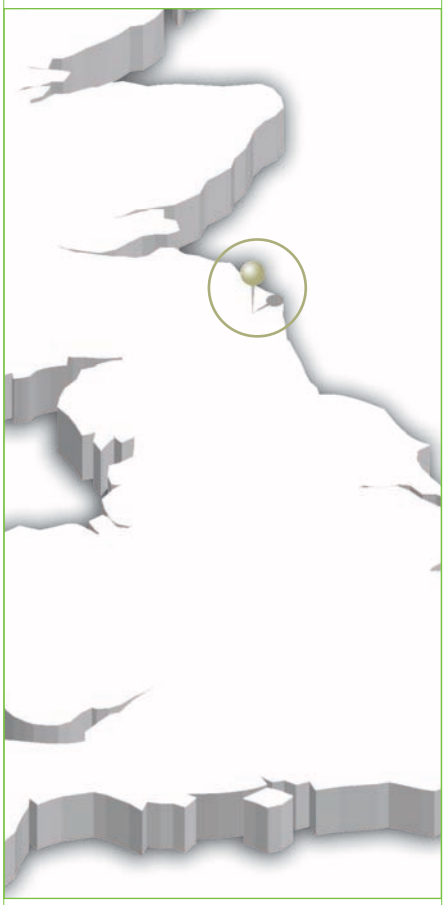
The Bishopton BVD scheme revealed that on some farms the BVD vaccine was not always administered correctly and this would be putting the protection of the cattle at risk.

Katharine explains: 'The heifers need to have their first two injections spaced three weeks apart. Both these injections need to have taken place before they are served. So although it can be tempting to turn heifers out as soon as the weather comes right in the spring, don't skip the second jab as without it, the vaccine doesn't give protection.

'Similarly, the giving of the annual booster needs to take place every 12 months, and not be allowed to lapse. And don't forget to vaccinate the bull!'

Correct vaccine storage is also very important. 'The BVD vaccine needs to be kept in the fridge. When vaccinating lots of animals out in the yard on a warm day, it's a good idea to put the bottles into a cool box until they are needed. The vaccine should also be administered the same day the bottle is opened. Bottles are available in 5 and 50 dose sizes so depending on cattle numbers, it may be best to buy more of the smaller bottles.'

alnorthumbria veterinary group



Veterinary Surgeon	Jenny Hull
XLVets Practice	Alnorthumbria Veterinary Group

JENNY HULL, ALNORTHUMBRIA VETERINARY GROUP

Creating a BVD-free supply of cattle in Northumberland

XLVets Alnorthumbria Vet Group and 30 local farmers are working together to control BVD in the Coquet Valley in Northumberland.

The BVD control scheme began last September, with RDPE funding from DEFRA and the EU, managed by LANTRA LandSkills. Thirty farms are involved - 2 dairy units, 3 store cattle farms, and the remainder, suckler herds.

'The plan is to control BVD and create a supply of cattle in the region whose disease-free status will appeal to buyers coming south from Scotland where a national BVD eradication scheme is already running,' explains Alnorthumbria's Jenny Hull.

'Eight of the thirty farms were found to have the BVD virus present. Some of these farms were already vaccinating, but not actually vaccinating correctly, and so were wasting time and money because the effectiveness of the vaccine was compromised.

'On one suckler farm with spring and autumn calving, those cows that had slipped through half a year after not being in calf had missed their vaccine booster, as the spring and autumn group were vaccinated separately. We recommend vaccinating the whole herd altogether once a year, so that none get missed.

Good neighbours

'Disease doesn't respect farm boundaries,' says Jenny. 'And one of the important findings in this project has been the importance of collaboration between farms when controlling a disease like BVD.

'Although the Coquet Valley has a high density of stock, it also has good natural boundaries - the Simonside hills, MOD ranges and arable land. This creates an isolated group of farms that neighbour onto one another, but in many places, with only a single wire fence between them.

'We took a closer look at how farms were interlinked by printing field level maps and getting farmers to draw on their boundaries: one long farm could border seven other farms. And then we identified the risk of nose-to-nose contact with single fences, the crossing of rivers by cattle, breakouts and summering cattle away at grass parks.

'In an ideal world, every farm would be double ring-fenced, never have breakouts, and never buy any cattle in!

'Since this isn't the case, a BVD action plan has been prepared for each farm, tailored to each individual situation based on disease risk, boundaries, sources of stock, etc.'

Jenny Hull

Buying in stores and heifers

'Store cattle farmers are constantly buying in cattle and so are always at risk because their disease status is constantly changing. For instance, the SAC has estimated that 1-2% of cattle going through a market are PIs. So our advice is to only buy stores from accredited disease-free farms, or at least test for BVD PIs when animals arrive on-farm.

'For any farm which borders a store cattle farm, where possible, double-fence or install guard wire on these farm boundaries. And avoid keeping pregnant cows in neighbouring fields.

'Buying in stock is always a disease risk, but especially so with BVD and in-calf animals as there is the risk that the unborn calf will be a PI.

'On one suckler farm, three Angus-cross 7-month old heifers were bought from a local mart to keep for breeding. One of them, unbeknown to the buyer, was in-calf and the following summer gave birth to a scrawny poor doer which then contracted pneumonia and didn't respond to treatment. BVD testing revealed it to be a PI animal and it was put down.

'The calf's dam tested negative to the disease. But unfortunately, she and her calf had been run all last summer with other cows and calves, including pregnant cows. So this spring, we are tissue sampling all calves at birth using tissue sampling tags, to check that no PIs have been created.

'The in-calf heifer possibly became infected with BVD when she was penned next to a PI animal in the market and either inhaled airborne BVD virus and/or came into contact with the body fluids of a PI animal. That's assuming she came from a BVD-free herd in the first place.

'It has already resulted in extra costs for the farmer - vet bills, euthanasing the calf, the TST tags on this year's calves. These costs could have been avoided by testing the calf once it was born - either taking a skin tissue sample at birth, or blood sampling at a month old.

'Hopefully the disease had not spread into the rest of the herd, or more costs will follow.'

The Alnorthumbria Vet Group has recently obtained further funding and so will be extending the BVD control area by another five farms to complete the block.

Jenny adds: 'BVD control schemes are only really effective when approached in a collaborative geographic way rather than on an individual farm by farm basis. The mapping of farm boundaries and creation of bespoke farm action plans are key success factors.'

'Our goal is to establish a population of BVD-free cattle in our area. And keep it that way.'

Jenny Hull, Alnorthumbria Veterinary Group

BELMONT VETERINARY CENTRE

Veterinary Surgeon	Matthew Pugh
XLVets Practice	Belmont Veterinary Centre

MATTHEW PUGH, BELMONT VETERINARY CENTRE

Advice on late summer feeding for dairy herds

Through mid-summer and autumn, there can be an over-reliance on grazing which leads to a shortfall in nutrient supply to cows, reducing their energy status and impacting on milk yields and fertility. So it's important to monitor your herd's body condition scores and take action to ensure a sufficient supply of nutrients, and adapt buffer feeding policy if needed.

The limitations of summer grass

There are huge differences between seasons, but in general, the amount of milk produced from grazed grass declines significantly from June onwards.

The energy content of grass stays relatively constant at around 11.5 MJ/kg DM. However, its Dry Matter (DM) content is hugely variable, as it is dependent on weather conditions throughout the grazing season. With decreasing daylight, colder evenings and poorer weather, DM content declines. Grazing management will also affect quality.

Dry matter intake is dictated by grass availability and its dry matter content and the amount of grazing time available. Together these factors drive milk production from grass from mid-summer onwards.

As the end of the grazing season approaches, not only does the DM content of grass decrease, but also grass growth declines, as does its digestibility.

So it is not unusual to find all-year round calving herds where declining grass quality and quantity has reduced the potential for energy intake. This results in a negative energy balance and the loss of body condition in cows either late in lactation and/or in early lactation. This then leads to poor fertility in summer calving cows, and extended calving intervals.

Typically, these cows are high yielders and struggle to physically eat enough grass to meet their total energy requirements. In addition, the high protein content of grass drives milk production and to meet the energy gap, the cows mobilise fat i.e. milk off their backs, leading to a drop in body condition and significantly impacting on their subsequent fertility.

Monitor body condition

The key to managing cows at grass is to monitor their body condition - this serves as an early warning system when dietary energy and protein levels are lacking.

In addition to regular body condition scoring, metabolic screening or blood profiling can be undertaken by your local XLVets vet to assess the energy status of a group of cows.

When cows fail to meet their energy requirements, they mobilise fat to compensate. This is broken down in their livers into ketones and then used as an alternative energy source. So by measuring ketone levels we can determine the extent of the dietary energy deficit, and take appropriate action from there.

Cows typically targeted at routine visits are cows which have calved 7-14 days previously - this determines how successful the dry cow management is. Also tested are cows which are at 40-50 days into their lactation - this assesses how well the current milking cow diet is meeting the energy requirements of high yielding cows.

Cheap on-farm testing kits such as ketone meters (below) are available which can be used by your vet at routine visits on a percentage of the cows that are at highest risk of ketosis. These give instant readings on blood ketone status and provide an indication of herd energy status.

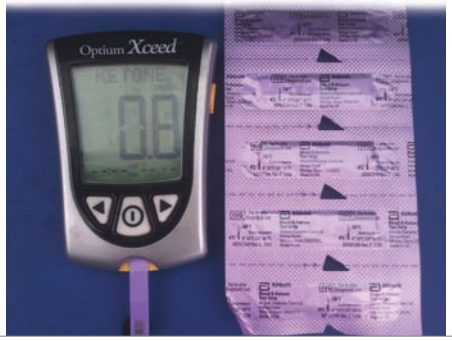


Figure 1 shows the ketone levels (also known as beta-hydroxybutyrate or BHB) found on one farm where as part of their regular routine visit, blood samples were taken each month from 6 cows at 40 days post-calving, through the 2010 grazing season.

The aim is to keep as many cows as possible in the green and as few cows as possible in red. However, the graph clearly shows a worsening trend in the freshly calved cows which was only rectified properly in October, when the herd was housed and moved onto full winter rations.

The second graph (figure 2) shows conception rates of another herd through the year. The percentage of PD positive cows (ie % of services actually resulting in the cow getting in calf) falls from June through to August 2009, and although a general improvement in herd fertility, a drop in July - September is seen. This is typical of a situation where summer grazing is not providing sufficient energy supply to the cow.

Figure 1: Energy status of 6 cows, as indicated by Ketone (BHB) levels

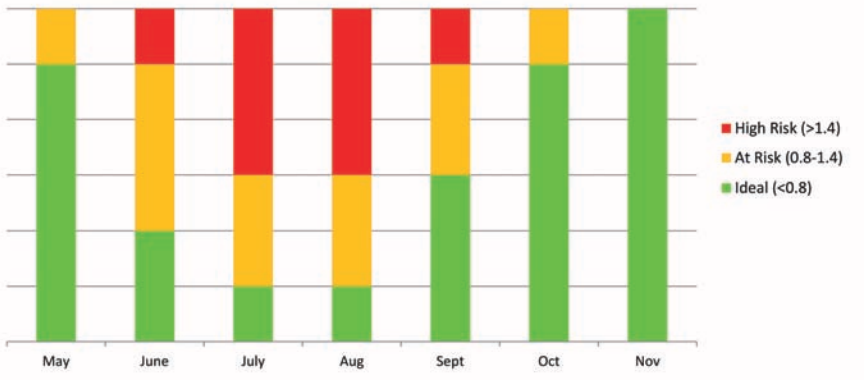
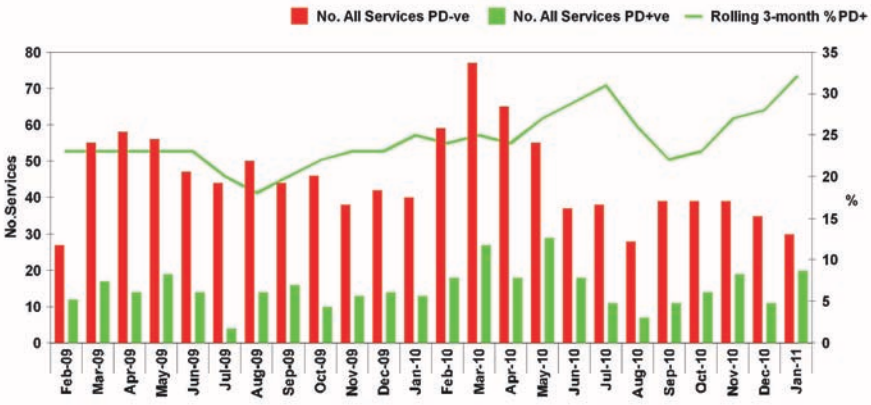


Figure 2: Conception rates of a herd 2009-2011



Taking Action

Knowing the energy status of your cows allows informed decisions to be made on the management of freshly calved cows and high yielding cows through the late summer period.

For example, it may be advisable to group the more at-risk cows so that they receive extra feed. Although grouping cows over the grazing season can be a hassle, it is nevertheless highly effective in an all-year round calving herd. Cows in middle and late lactation can still be allowed to graze whilst those giving more milk receive more buffer feeding opportunity.

Where body condition scores are falling, or blood tests reveal low energy status, then it may be necessary to house the herd at night and give free access to buffer feed, which itself, may need re-formulating.

Other practical issues to consider centre around the availability of feed and water:

- Is there enough trough space to allow all cows to feed at the same time? Ideally, there should be at least 0.75m/cow.
- Is your trough and silage pit management good enough to minimise the ration heating up which reduces its appeal and depresses intakes?
- How far do cows have to walk to drink?
- Would you drink out of their water trough? If not, it is unlikely your cows will. Is there enough space for several cows to drink at once, and can water supply keep up with the demand?

Afternoon buffer feeding

Ideally, all high yielding cows/fresh calvers should be housed for 2-4 hours before afternoon milking with access to just enough buffer feed, that they clear the troughs before being milked.

This is because in the evenings, the grass will contain higher amounts of highly digestible sugars and a higher dry matter content (as water is lost from the leaves). So it's best to buffer feed before milking and then turn them out to graze grass afterwards. They will eat more in total, helping meet their energy requirements.

Conversely, if cows have buffer feed after milking, or in the field, then they are substituting buffer feed for the good (cheap) grazing available at the end of the day.

BISHOPTON VETERINARY GROUP

Veterinary Surgeon	Ruth Buxton
XLVets Practice	Bishopton Veterinary Group

RUTH BUXTON

During the warm summer months, the presence of flies in the parlour can be a real nuisance for both the cows and the people milking them. It's vital to take action early in the breeding season, to stop the fly population developing in the first place.

Taking a strategic approach to fly control - by tackling the source

Ruth Buxton of Bishopton Veterinary Group explains how flies are best controlled on a farm with a two-pronged approach in which adult flies are killed and their larvae are prevented from developing into adults.

'During the warm summer months, the presence of flies in the parlour can be a real nuisance for both the cows and the people milking them,' says Ruth.

'Cows, aggravated by flies, are more likely to kick their units off onto the floor and when they are re-applied a reverse flow of milk at the teat end can occur, increasing the risk of mastitis.

'In short, flies in the parlour create longer milking times, more muck and more mastitis.'

A two-pronged approach to fly control

'Fly control on many farms involves treating cows with a 'pour on' which kills adult flies.

'And in the parlour, using an insecticide fogger or mister to fill the air with a pyrethroid 'knock-down' product to kill any adult flies present.

'These products are very useful and necessary for reducing fly problems in cattle but have little effect on the development of the fly population on the farm.

'In fact, the adult flies which cause all the problems are actually only 15% of the population - the remaining 85% are at the larval stage. After hatching a female fly can lay eggs as soon as two weeks later. The result is exponential growth with large numbers of immature flies developing out of view.

'Integrated fly control means using a two-pronged attack on flies; using an adulticide to kill adult flies, and treating the environment with a larvicide to prevent fly larvae developing into adults.'

Case Study: Hatton House Farm

At Hatton House Farm, near Harrogate, brothers Glen and Roger Kellet milk 250 cows. Despite running a tidy unit, the farm suffers quite badly from flies in the warmer months and milking time had become fairly intolerable for man and beast alike.

Cattle received a pour-on to prevent fly biting and before each milking, a fogger loaded with a pyrethroid 'knockdown' insecticide would be set off in the parlour to kill any adult flies present.

Yet flies were still causing problems, as Glen Kellet explains: 'The hassle factor for all those working on the farm, as well as the upset caused to the cows was just as big an issue as the economic losses that went with the additional cases of mastitis that we undoubtedly got when flies were bad.'

The issue was mentioned to Ruth on one of her regular visits last year. She suggested that, as well as stepping up the control of adult flies, the farm environment be treated with a larvicide to prevent adult flies emerging. The Kellet brothers were a bit sceptical, but agreed to try it and Novartis Animal Health kindly supported the trial with the necessary fly products.

Reducing flies at source

The first step was to identify the main fly breeding sites on the farm. Flies breed in relatively predictable areas - in stale manure and in loose-bedded areas that are left undisturbed. In straw yards, flies will breed around the edge of the pens, but not in the centre where animals are compressing the bedding. Calf pens are often the biggest breeding ground because they combine lots of pen edges, lots of animals to bite, and lots of sweet manure and milk.

Ruth explains: 'It's vital to take action early in the breeding season, to stop the fly population developing in the first place.'

At Hatton House Farm, the identified breeding areas were treated aggressively in late April with the larvicide, Neporex™. This was diluted in water and a watering can with a rose (coarse nozzle) used to apply it onto bedding and manure in the fly breeding areas. This initial treatment took about 4 hours and included applying the larvicide to a large muck heap.

In addition to the farm's cattle receiving an anti-fly pour-on, two other products were used in the environment to kill flies already at the adult life stage.

Ruth explains: 'One was SpY™, which contains a fly pheromone and attracts flies to consume it, after which they then die. This was used by taking A4-sized pieces of board, applying wallpaper paste and then sprinkling the product over the board. These boards were hung up in the calf house and around the dairy.

'In addition, Oxyfly™ a more traditional knockdown product with a long duration of action, was applied to all walls and fly resting areas using a knapsack sprayer.'

Monitoring the fly population

Throughout the summer, the fly population was monitored to determine if and when further environmental treatments were necessary.

Monitoring was simple and objective: an area of between 0.5-1m^2 was chalked out on a wall at several points around the farm. Then, three times each week, the number of flies in the square at a given moment, were counted and recorded. With effective control, this typically ranged from one to three. But as soon as an exponential increase in flies began and numbers were jumping up to 6 or 9, then Neporex™ was re-applied in the fly breeding areas.

In the end, two further treatments were deemed necessary. Repeat applications were made, using Neporex™ in dry powder form, mid-June and early August - everywhere but the muck heap.

Ruth explains: 'The cost of treating the environment with the larvicide was around £500. So we considered that this fly control strategy was well worth doing, as it was equivalent to preventing two cases of mastitis.

'For the Kellets, the benefits were even clearer - happier cows and less stressful milkings. And so they will be continuing to take this approach each summer,' says Ruth.

She advises: 'It's important to recognise that every farm is different. Some farms will have fly breeding risks that are difficult to control economically. So it's a good idea to ask your vet for a farm assessment first. What is for sure is that tackling the emerging fly population in the environment, can make a big difference.'

ALLEN & PARTNERS
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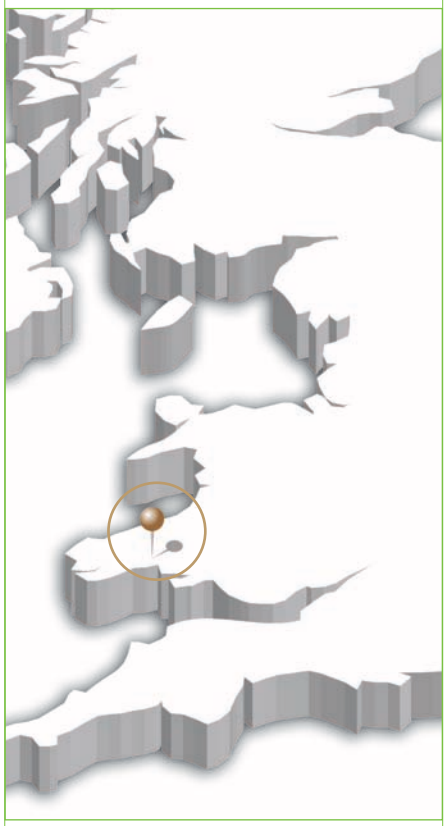

Veterinary Surgeon	Paul Rodgers
XLVets Practice	Allen & Partners Veterinary Surgeons

PAUL RODGERS, ALLEN & PARTNERS VETERINARY SURGEONS

It can be very stressful to be farming in an area where bTB is endemic in the wildlife population and TB tests frequently identify TB-infected cattle...

Protecting your herd from bovine TB (bTB) with biosecurity measures

Based in Whitland, Carmarthenshire, XLVets' Paul Rodgers of Allen and Partners has been heavily involved in working with the Welsh Government and making biosecurity visits to farms in bovine TB areas. Here he offers some advice to cattle farmers on taking precautions against the disease.

Firstly, it can certainly be very stressful to be farming in an area where bTB is endemic in the wildlife population and TB tests frequently identify TB-infected cattle, particularly when politicians are refusing to take effective measures to control the infected badger population. However, at farm level, there are still a number of practical precautions that can be taken to minimise the risk of your cattle becoming infected.

Disease levels in a herd are influenced by the introduction of new disease into the herd, and by its spread within the herd. In the case of bTB, consideration needs also to be given to preventing the spread of this disease from an infected herd into the local wildlife populations.

Assessing the risks on your farm

The bTB status of your area and individual farm dictates the main risk factors for you:

1. **Infected farms in endemic areas** - Maintaining a closed herd status is likely to be unfeasible due to the need to replace bTB reactors. However, there are still actions which can be taken to reduce the risk of a future infection, e.g. by preventing badgers from accessing feed stores.

2. **Uninfected farms in or near endemic areas** - If badgers are present on, or around your farm, then this is the main risk factor and as such should be the main priority for control. If possible, keep the herd closed.

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3. **Uninfected farms in areas with low bTB incidence** - In these areas there will either be no, few or uninfected badgers in the area. Cattle movement is the prime source of potential infection. If the herd is not closed, then adopt a robust policy for replacements. Cattle should not be moved in from endemic areas, or from other farms that have introduced animals from high risk areas. Minimising contact with wildlife is still important to reduce the chances of introducing TB into an uninfected badger population.

On-farm biosecurity measures

In TB areas, or where badgers are present, then there is the possibility of TB-infected badgers coming into contact with cows at grass. However, many other risks can be minimised or prevented by taking appropriate action.

Cattle can become infected with bTB from other cattle in a number of ways; by co-grazing, (for example on common land), shared housing; at shows; returns from market; and grazing/housing away from home premises with direct (nose to nose) or indirect (e.g. shared water) contact with other herds.

To reduce the opportunity for disease spread from nose to nose contact whilst cattle are at grass, inspect your field boundaries; a separation from your neighbouring cattle fields of at least 3 metres is recommended. Also check your fencing; is it robust enough to prevent cattle escaping into the next field and mingling with another herd?

Where fields are next to, or include woodland or scrub inhabited by badgers or deer that could harbour TB, consider whether these areas could be put down to other crops or grazed by non-bovines.

If there are populations of badgers present on and around the farm, securing feed stores should be the main priority, closely followed by cattle housing and feed areas. Although difficult it is always possible to secure buildings. Badgers can access through any gap greater than 10cm (the height of most mobile phones), so checking entry points (figs 1-3) is recommended.

Figure 1

Figure 2

Figure 3

Although passive fencing is best, to prevent badgers accessing maize silage clamps and feed stores, it may be necessary to use electric fencing (three strands at 10cm, 15cm and 20cm from the ground).

Reducing contact at pasture is much more difficult. If possible, avoid grazing cattle near to setts or latrines if they are not too extensive.

Any livestock transport vehicles, cattle crushes or slurry and manure equipment that are shared between farms or hired in, should be thoroughly cleaned and disinfected before introducing your stock to them.

Manure, slurry, and dirty water from another farm are also potential sources of bTB (and other) infection and should not be spread on livestock pasture.

The use of foot dips by visitors and staff is another overlooked safety precaution that can be taken against disease spread.

The above security precautions are relevant not only for bTB, but also for infectious diseases such as BVD and leptospirosis.

Buying in cattle

Whether you are on a farm which is in the clear for TB and wanting to expand your herd number, or looking to replace stock lost in a recent TB shutdown, it is still important to follow biosecurity procedures when bringing new cattle to the farm.

A pre-movement TB test carried out on animals before they move to the farm will identify any that have TB lesions at that time. However, TB is a slow chronic disease, and it takes time for infected animals to become detectable. This means it is still possible that they could be TB-infected, but not react to the skin test. So don't rely just on one pre-movement test. Instead, when the animals arrive on your farm, quarantine them for at least 2 months, and then test again.

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Sophie Throup FarmSkills Manager

FarmSkills

GROWING FARM BUSINESS SUCCESS

FarmSkills recently ran a series of Environmental Mastitis workshops supported by Virbac to raise awareness of how to manage mastitis problems on the dairy farm.

All the workshops were highly practical and participative in nature and helped delegates define mastitis, name the principal causes of mastitis, calculate its economic cost and appreciate the welfare costs associated with not managing the problem effectively.

Environmental Mastitis workshops

Wendy van Winden from Penbode Vets in Holsworthy, Devon, ran three mastitis workshops for her clients, which were also part of the SWHLI programme of farm education and training.

Wendy comments: The DairyCo Mastitis Plan identified a variety of issues on the farms taking part in the SWHLI mastitis strand. We also found that a common problem was that most farms used several milkers and stockmen, who were not all equally aware of the impact they had on the spread of mastitis. A series of three FarmSkills workshops were organised for them focusing on environmental mastitis, contagious mastitis and milking machine faults. The workshops were held on different farms and illustrated real life issues, providing food for thought and stimulating a lively discussion.'

Jonathan Statham from Bishopton Vets trained one group of delegates on farm in Ripon as part of their FarmSkills Dairy certificate. Using smoke bombs and humidity meters to test building ventilation and working with the delegates to calculate the effects on stocking rates on housing, the group developed an action plan to deal with mastitis control which will be a useful part of their herd health improvement plan.

Jonathan Statham: 'With recent research suggesting that reductions in incidence of around 20 per cent were achievable with appropriate intervention, being on top of managing your environment is a key part of a stockman's job. The FarmSkills environmental mastitis workshop helps open farmers' minds to all the different areas on a farm that can affect this problem - and starts to work out solutions as part of the discussion and training.'

...Top Tips for managing mastitis in the environment

(courtesy of Virbac Animal Health)

The cow

- Keep the animal as clean as possible
- Consider regularly clipping tails and udder hair

Dry cows

- Use dry cow therapy as recommended by your vet to suit the circumstances on your farm

Outside

- Use rotational grazing as environmental pathogens (including S.uberis) have the ability to survive in wet soil and pastures
- Try to graze paddocks for two weeks and then rest them for four
- Watch your cattle - do not forget dry cows
- Move cows quickly should their grazing areas become wet or muddy
- Ensure sufficient water and feeding sites to avoid the creation of boggy areas, an ideal breeding ground for bacteria

Housed areas

- Provide enough space for loafing, allowing animals to stay cleaner and reducing the risk of contamination with the bacteria which cause environmental mastitis
- Ensure cubicles are the right size for the breed of cow
- Renew bedding regularly and make sure it is as dry as possible
- Regularly remove slurry from passageways
- Talk to your vet or advisor about suitable cubicle bedding

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FarmSkills

GROWING FARM BUSINESS SUCCESS

FarmSkills Bull Fertility Campaign

The FarmSkills Bull Fertility workshops have helped our farmers find out whether their bulls are packing the right punch and how to plan for better results in the herd - positive benefits from practical courses.

20 June	York Auction Mart
21 June	Holsworthy Auction Mart
22 June	Haywood Farm, Hereford
25 June	Shrewsbury Auction Mart
27 June	Hexham Auction Mart
27 June	Chelford Auction Mart
28 June	Leyburn Auction Mart
June	Skipton Auction Mart
June	Derby Auction Mart
June	Newark Auction Mart
3 July	Frome Auction Mart
5 July	Barnard Castle Auction Mart

Bull Fertility

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Please note dates are subject to change

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www.farm-skills.co.uk

Text **07854 063384** Telephone **01765 608489**
e-mail **farmskills@xlvets.co.uk**

We will be running Bull Fertility Workshops across the UK from Aberdeen to Cornwall over the coming months. For a date near you log on to our website or call us on 01765 608489.

Many FarmSkills workshops are funded by LandSkills, which is managed by Lantra, in the North East, Yorkshire and Humber, East and West Midlands as part of the Rural Development Programme for England. The FarmSkills workshops in Cheshire are funded through the RDPE Skills Programme for Cheshire, which is managed by the Reaseheath Enterprise Delivery Hub. FarmSkills workshops in the South West are supported by the Duchy College's Rural Business School's Healthy Livestock and Skills projects as part of the Rural Development Programme for England, funded by DEFRA and the European Union

STUDENT DIARY

Eva Kenny, Cork, Republic of Ireland

Second year student at The University of Nottingham, School of Veterinary Medicine and Science

Strength, Strudel and Study...

'You want to work with the small animals then?' The question frequently asked of any female on a veterinary course.

Usually by a well meaning distant relative or a stranger you happen to get talking to on the bus. On hearing my reply that I would actually very much like to work with large animals their brow knits in seeming concern, with often a cursory glance up and down, thrown in as if to survey my physical capability for such a prospect. In the consequent discussion of the matter, it often boils down to one point in their mind; strength. Now I'm not here to open that particular can of worms but would instead venture that knowledge, technique and common sense are all equally if not more important; illustrated perfectly by our reproduction system module.

Lectures on every aspect of reproduction from signs of oestrus to breeding for genetic improvement were delivered and reinforced with practicals galore such as the cattle rectal exam simulator; your hand 'feeling' a virtual cow tract and determining the stage of pregnancy. Identification and correction of abnormal birthing presentations and ultrasound pregnancy diagnosis also proved popular practicals. The module appropriately timed to arm us with the knowledge and technical skills to deal with the spring flurry of births we would face while out on placement.

I returned to Ireland to help with the lambing to find I'd missed the majority of it, most of the sheep having lambed obediently in a neat three week window. My enthusiasm to try out my new techniques and good intentions to use it as a revision exercise were unfortunately sidelined. Calving at home was also at a lull, though I still happily shared my newly learnt fact that a calving jack applies the traction and pulling power of 5-6 men. Surely putting me back on the playing field on that particular strength issue!

Between the calvings and lambings a group of us found time for an exchange with vet students from Vienna. They posed with Robin Hood in Nottingham and were introduced to the 'Sunday Roast'. We returned to Austria and marvelled at their Vet School in the city and the range of animals they kept despite being centrally located. I was amazed to discover their animal hospital has an animal ambulance which goes out and collects sick cattle from farms, free of charge, to be brought to be treated. Of course we also found time to sample their cuisine; schnitzel, apple strudel and delicious waffles. Sadly the last notes of the Viennese Waltz have softly faded to be replaced by the turning of pages and scratching of pens which can only mean one thing...study.

STUDENT DIARY

Mark Challoner, Manley, Cheshire

Fourth year student, Liverpool University

Moi from Finland!

I am writing this at midnight in the middle of a night shift so I apologise if it gets a bit disjointed - it's probably because something started happening half way through! I'm now two-thirds of the way through my exchange in Finland which has gone very quickly.

I arrived at the beginning of March to a very snowy landscape, which all melted over the first 4 weeks, giving me just enough time to get a bit of cross country skiing in! The weather here has been cold but now we are into May the sun is shining and I managed to leave my warm coat at home for the first time today, however it still gets very cold as soon as the sun goes down. I have so far done 3 weeks of small animal surgery and 5 weeks in the equine hospital. This week I'm doing 3 night shifts at the small animal hospital dealing with emergency patients.

I have to spend a lot of my time asking what exactly is going on but everyone here speaks really good English and either the vets or the students will translate for me and the relaxed attitude around the hospitals makes life easier. My knowledge of Finnish is embarrassingly bad even though I've been here two months but I recently learnt the numbers 1 to 5 so now I keep hearing numbers all the time, even if I have no idea what they are actually talking about! I've really enjoyed the rotations and it's great to finally be doing something practical and getting some real hands-on experience. I think the case load here is much smaller than Liverpool but we do get a lot of hands on teaching and a chance to practise on each case. Despite making a fool of myself on multiple occasions and answering many questions wrongly I really feel I am starting to get some practical skills to go with the theoretical knowledge.

The equine work has definitely been the best part so far and was made easier by one of the head clinicians being South African; so everything is done in English anyway. This makes me feel better about everyone in the room speaking in English and not just because I'm there. My own patient, a mare with 2 week old foal, went home last week after spending two weeks in the hospital following a colic surgery and nearly every possible complication, and it was very rewarding (and slightly relieving) to see her and her massive foal finally leave in one piece. I'm getting the benefit of the Finnish 40 hour working week here (due to labour laws which also apply to students) much to the envy of my friends back in Liverpool. This has given me the chance to get out and explore Finland and even manage trips to St Petersburg and Estonia.

On the 1st of May we celebrated the Finnish spring time festival of Vappu, which proved to be a real experience! The night before we went into Helsinki with the Finnish vet students to a horse and foal statue which they proceeded to bandage, feed and attach a drip line to, before standing around it singing songs (most of them once translated are unrepeatable here!) After this we went to another statue in the centre of town which every year, live on TV, has a high school graduation hat put on it (all Finnish people get a hat a bit like a ship's captain's hat when they graduate from high school) and everyone then cheers and puts on their own hats which then stay on for the rest of the festival. Everyone is out in town that evening and the streets are crammed with people celebrating.

The next day everyone heads to a Kaivopuisto park in Helsinki for an all day picnic. All of the university departments got there early and had tents set up by 9am to bag the best spots. The whole festival was really good fun and had a very big community feel to it and I struggled to come up with any kind of comparable day at home (I think the closest we get is bonfire night). I've also become quite a fan of the Finnish sauna which when combined with dips into an ice lake is a very relaxing and refreshing experience, although the requirement to be 'au natural' has taken a bit of getting used to! I'm yet to see much of the farming here yet as my farm rotations start in 2 weeks, although I get the impression the farms are much smaller here. The reaction of students when I tell them we have 350 sheep at home is hilarious as a large flock here is about 50, mostly because the very cold winters make keeping sheep very expensive. With only one month to go it will be good to return home and see everyone but I do think I will miss a lot of things from here. I've just heard a dog with a gastric torsion is on its way in so I'd better go, Moi Moi!

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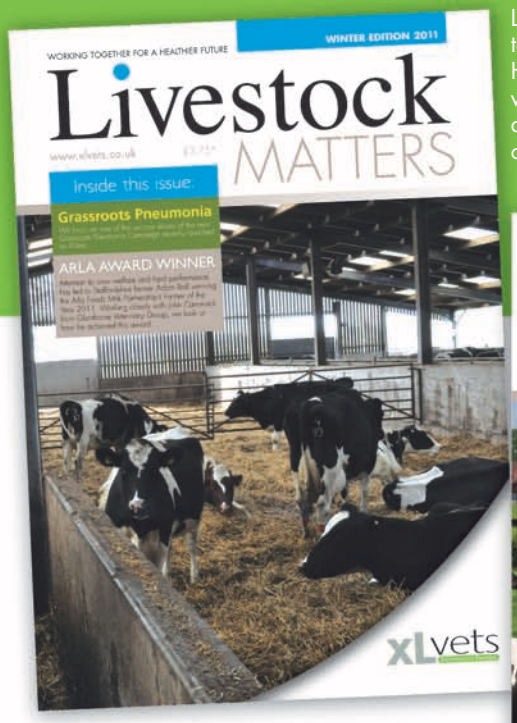

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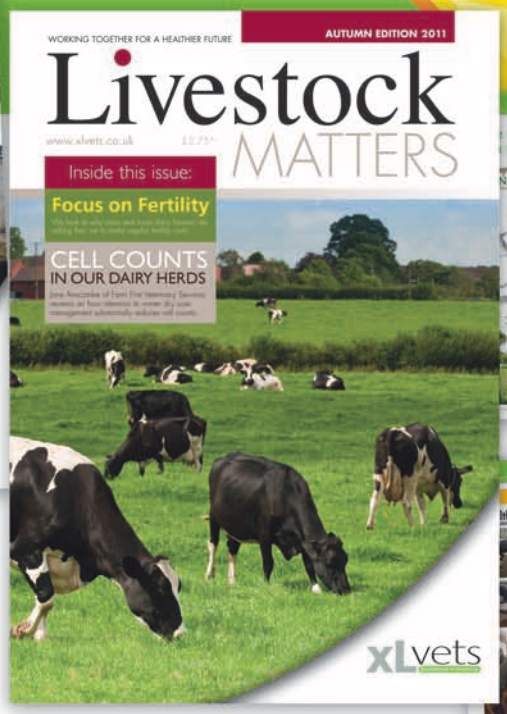

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