WORKING TOGETHER FOR A HEALTHIER FUTURE

WINTER 2013/2014

Livestock MATTERS

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Inside this issue:

xLvets Excellence in Practice

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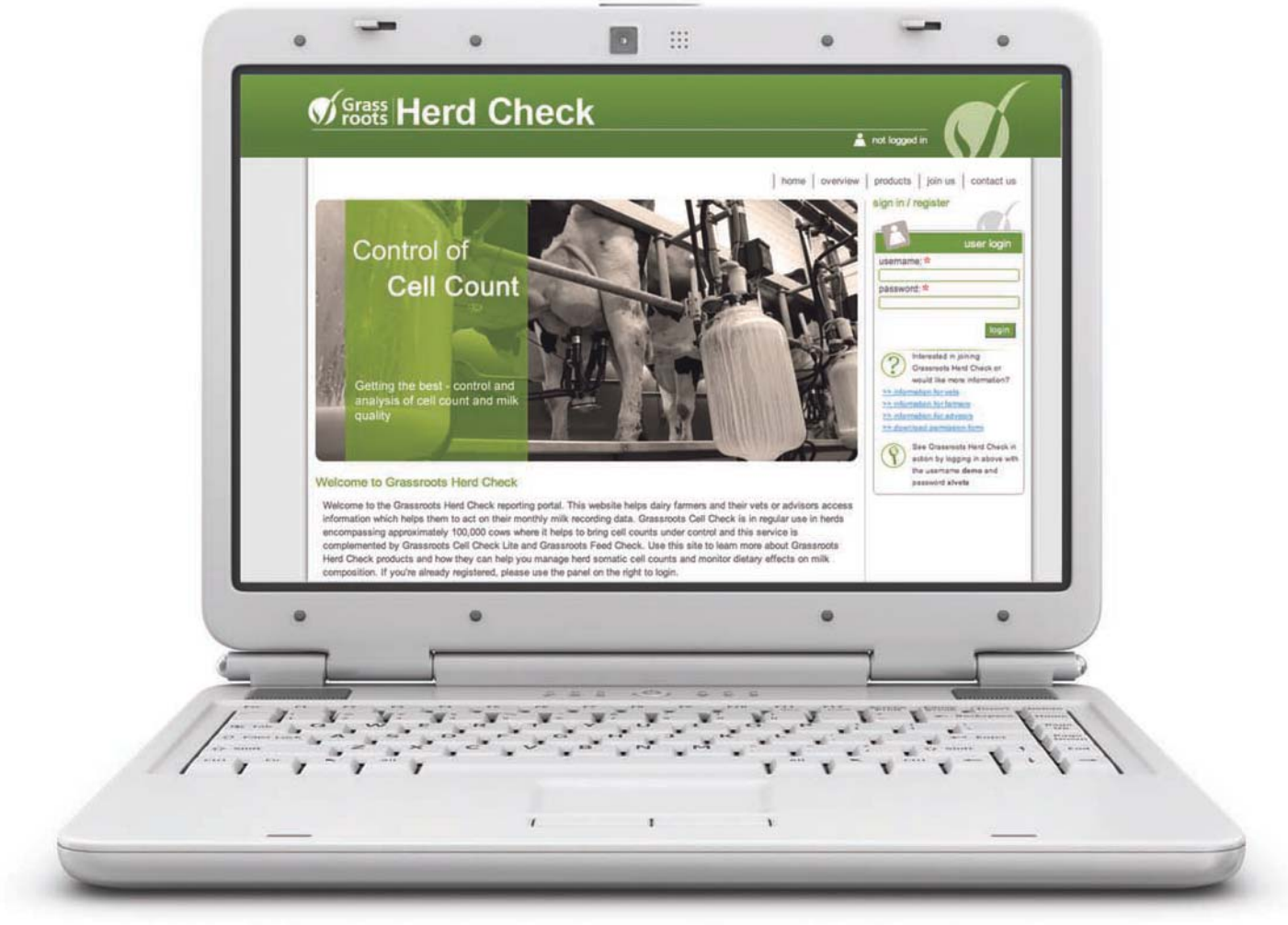

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xLvets
Excellence in Practice

WINTER EDITION

XLVets is a novel and exciting initiative conceived from within the veterinary profession. We are all independently owned, progressive veterinary practices located throughout the United Kingdom committed to working together for the benefit of our clients.

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THE EDITOR

Welcome to the 'Winter' issue of Livestock Matters

In this edition we have the first of a series of articles from the first XLVets international farm meeting which took place in Cork, Ireland in October.

The event was attended by over 100 farm vets from XLVets practices in both the UK and Ireland. It was the first time all the vets had come together and provided a great opportunity for people to meet, share ideas, hear about the latest dairy research findings and learn more about the future of dairy farming in Ireland - where milk quotas are coming to an end.

As lambing time approaches, Matt Pugh from XLVets Belmont Veterinary Group provides readers with some advice for managing pregnant ewes and preparing for lambing time; and we see how the same principles and advice can be applied to a dairy goat farm.

Finally we have our last update from our two students in the popular Student Diaries column; it's been great following Sam and Emily through a year of their studies and I am sure you will join me in thanking them for giving us all an insight into life as a vet student and wishing them every success with their veterinary careers.

Wishing you all a Happy New Year.

Joanne Sharpe XLVets

ANIMAL HEALTH

INDUSTRY FEATURES

WINTER FEATURE 04

XLVets at AgriScot 2013
20th November 2013, Edinburgh

There wasn't much chance of missing the XLVets and FarmSkills stand at AgriScot this year, due to the huge, bright green, logo-emblazoned gazebo we'd erected to indicate our presence!

One of our aims this year was to promote the Grassroots Herd Check tool to farmers, and advisors in the industry by demonstrating the different reports that can be produced from milk recording data to aid the monitoring of somatic cell counts and its role in tackling potential mastitis problems.

Promoting the FarmSkills website and discussing the range of courses available, with their hands-on delivery style proved popular, as did the work and fact books Helen had brought along. They unfortunately went like 'snow off a dyke' which hadn't quite been the plan but it at least proved to us again the level of interest the FarmSkills courses generate.

Copies of the Autumn edition of Livestock Matters and the obligatory XLVets pens were as popular as ever and with an array of factsheets available to fill pockets and bags, all our visitors went away armed with useful information to take back to their farm.

Our sincere thanks once again, go to those members who came along to help on the stand throughout the day.

Nottingham CPD Day

by Clive Patel, Wright and Morten - September 4th saw Nottingham University host their annual CPD day for XLVets.

Vets from many XLVet member practices came along for the day and were presented with a range of topics highlighting some of the current research being carried out at the university.

The day began with a very enthusiastic run through of Neospora by Wendela Wapenaar. She brought to our attention some of the most recent updates surrounding the disease and gave her practical thoughts on investigating and controlling Neospora abortions.

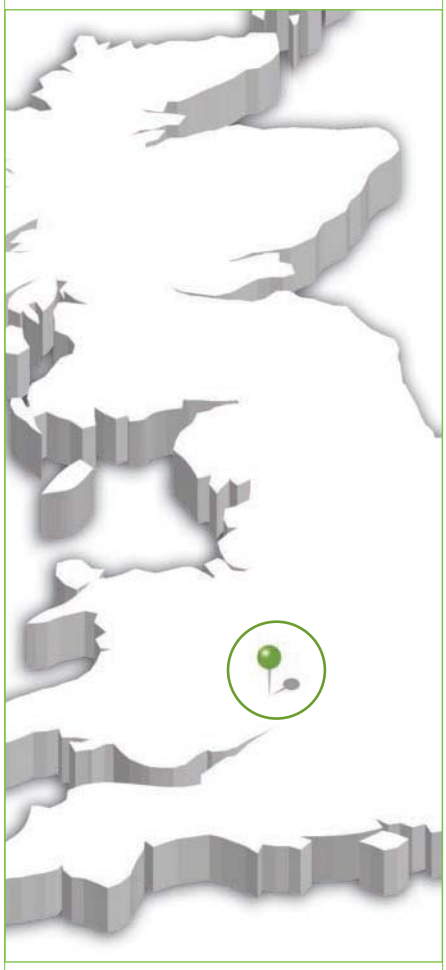
Lameness and reproduction were the next key topics with presentations on some of the latest work being undertaken at the university, including research into claw horn lesions and the effects of early treatment, as well as the links between somatic cell count and lifetime milk yield in heifers. In addition to this, an investigation into what effect reducing lameness has on pregnancy rates and how this effect compares with, for example, increasing submission rates. Finally, the benefits of typing different strains of mastitis pathogens, especially S. uberis, was demonstrated, based on research that has been conducted at the university.

All in all, the staff at Nottingham provided us with a fabulous day and gave everyone a really good insight into the latest research and its potential practical application for both us and our farm clients.

MATTHEW PUGH, BELMONT VETERINARY CENTRE

Preparation and ongoing risk management are needed to maximise the numbers of lambs (and kids) reared

Good hygiene, disease management, and ensuring appropriate nutrition are the three main factors which affect the numbers of lambs (or goat kids) born and successfully reared on a farm. Here, Matt Pugh of Belmont Veterinary Practice in Hereford, has some advice for sheep and goat farmers.



Veterinary surgeon	Matthew Pugh
XLVets practice	Belmont Veterinary Centre, Hereford

Nutrition - of dam and young

The nutritional status of the ewe or doe affects the quantity and quality of the colostrum produced. This in turn affects the survivability of the newborn animal.

Matt explains: 'Last winter, a lot of lambs were unnecessarily lost because pregnant ewes were given the same amounts of feed and forage as in previous years. But on some farms, the forage was of lower quality and the ewes in poorer condition. The knock-on effect was insufficient colostrum, and weaker lambs.

'To make sure pregnant ewes are receiving the right level of nutrition, they should be scanned at 60-90 days to identify the number of lambs being carried, and then grouped accordingly. Forages should be analysed, and then rations can be formulated using the appropriate quality and quantity of bought-in concentrates. In the last 3-4 weeks prior to lambing, it's best practice to blood test batches of ewes, alongside body condition scoring, to check their nutritional status and alter rations as needed.

'When lambs (and kids and calves) are first born, it's critical that they receive adequate colostrum in the first four hours of life, to gain effective immunity.

'But don't just rely on the dam to ensure a newborn animal has received its colostrum,' warns Matt. 'My motto is "educate your fingers" - use them as you pick up the lamb or kid to check whether it has a full stomach or not. Human intervention may be needed to ensure sufficient colostrum intakes.Don't rely on "Mum".'

Protecting health

The majority of abortions in sheep are caused by chlamydia (enzootic abortions) and a parasite which causes toxoplasmosis.

Matt explains: 'In flocks/herds with a known history of these, then vaccination is highly recommended.

'Toxoplasmosis can be brought onto a farm by cats which have eaten infected mice. They will shed the toxoplasma parasite in their faeces. So where cats are present on a farm, take care to protect the biosecurity of forages and feeds.

'Ideally, it's best not to have cats around pregnant ewes and goats at all. But that's not easily done. However, if the cat population is stable, then there's less risk, as once cats have had toxoplasmosis, they tend not to shed the parasite again.'

Good hygiene and disease control

The cleaning and disinfecting of sheds and pens before lambing starts is another essential element of risk management. Good hygiene practices need to be maintained through to the end of the lambing period.

Coccidiosis and cryptosporidium are two parasitic diseases which can have significant impact on the survival of young lambs and kids. Good hygiene, and in some cases, the use of preventative treatments, are required.

Matt explains: 'With cryptosporidium, adults tend to shed low numbers of oocysts throughout their life. But at lambing or kidding times the rate of shedding increases significantly, and all young animals will be at risk of infection. The most susceptible will be those that lack passive immunity through insufficient colostrum intakes.

'Where there's a history of coccidiosis and preventative treatment is needed on top of good hygiene, the timing of treatment is important. The animal - and this applies for calves too - needs to have been exposed to the coccidial oocysts for seven to ten days, before being dosed with a coccidiocidal product, if immunity is to develop.'

CASE STUDY

Dairy goats - the same rules and more

At **Pant Farm** near Abergavenny in Monmouthshire, Gary Yeomans and his wife Jess milk 530 dairy goats, with an average yield of 850 litres/goat.

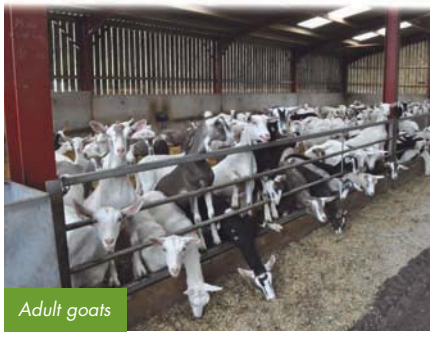
Matt explains: 'In principle, goat farmers need to follow the same hygiene and health management procedures as for sheep, although there are some differences between the species.'

Gary and Jess Yeomans

Kid management

The herd is kidded down in three batches - autumn, spring, and then the goatlings kid in summer. Regulin and lights are used to manage breeding out of season.

Adult goats are kept in a single shed, with a bay at one end used as the kidding bay. This is cleaned out every week - bedding is removed and an anti-bacterial powder applied and then fresh straw on top.



Adult goats

Gary explains: 'With so many goats, and only kidding at certain times of the year, the actual kidding rate on a day can be very high! Matt would like to see us remove kids when 12-24 hours old, but it's not always practical. So they are sometimes left on their mothers for a few days.'

Kids are reared in a separate shed which is emptied and steam cleaned after every batch. Jess looks after all the kid rearing. Both Gary and Matt agree that women tend to be better at this: they pay more attention to the detail and have more patience! Kids are kept in pens of 10 to 15, and bottle-fed for the first couple of feeds before being introduced to the teats on the automatic milking machine.

Matt adds: 'Here, the early identification of scours and runny noses is important, so that remedial action can be taken promptly.'

Kids have access to barley straw from the start and at seven to ten days of age are given concentrates. They are weaned at 15kg - typically eight weeks of age - after checking they are consuming adequate levels of concentrate.

Gary adds: 'We reared around 80 kids in the autumn, but at other times numbers can reach 150. So they are quite a challenge to manage, and it gets very busy!

Kid on teat

Matthew Pugh and Gary Yeomans in kid shed

'We deliberately chose an automatic milking machine with a wash cycle that also cleans the teats. This has reduced the incidence of bacterial scours, and freed up time.

'The plan is to expand by another 70 goats and it would be great if we could find someone to contract-rear the kids for us, like dairy farmers do with their heifers.'

Problem diseases

The biggest health problem in the kidding shed has been pneumonia. The main cause has been the building design and the Yeomans have made changes to improve its ventilation.

'Cryptosporidium is another risk factor here,' says Matt. 'It's treatable, but for goats the drugs have a narrow safety margin, so it's better to look at how to reduce risks. The infection originates from adults and that's another reason why I'd like to see kids removed from the kidding bay sooner.

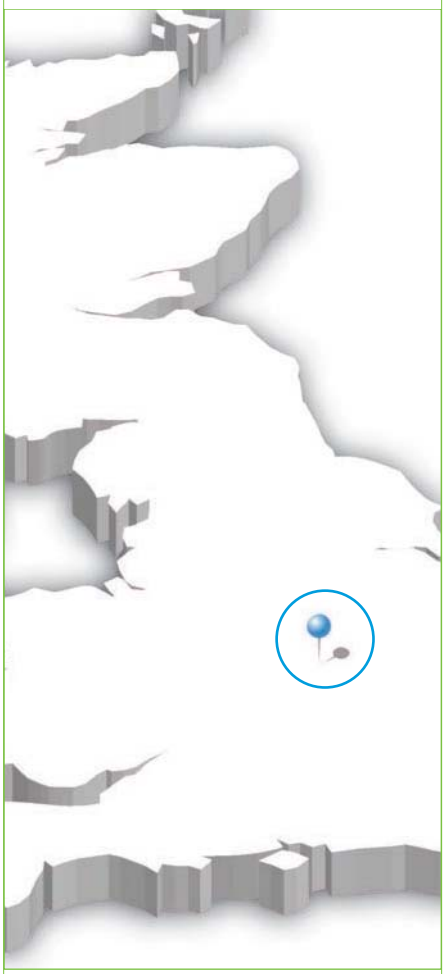
Matt sets off a smoke bomb to check the ventilation in the kid shed

Kid shed with improved ventilation

'It can be tempting to relax hygiene precautions at the end of lambing and kidding seasons. But it's probably even more important then, as there will be a bigger build-up of disease pressure.'

Matt concludes: 'To maximise the numbers of lambs or kids reared on any farm, it's all about mitigating risks. A focus is needed on managing the nutrition - of both the mothers and the newborn, as well as ensuring good hygiene practices and reducing the exposure of young animals to disease challenge.'

Farm Veterinary Solutions



Veterinary surgeon	Mike Thorne
XLVets practice	Farm Veterinary Solutions, Rutland

MIKE THORNE FARM VETERINARY SOLUTIONS

A small price to pay

for good health, fertility and herd performance

Suzanne and Nigel Smith

Leicestershire dairy farming couple Nigel and Suzanne Smith maintain the good health, fertility and productivity of their herd, working together with their vet, Mike Thorne of Farm Vet Solutions.

Mike makes regular fertility visits at key times of the year, and advises the Smiths on all aspects of herd health on an ongoing basis. Each year, Mike and the Smiths also review the annual 'vet spend' using a computer-generated report which itemises the costs incurred in maintaining good herd health, and links these to herd performance. In the latest review, the investment in health amounted to just 0.61pence per litre of milk (ppl) produced.

Good herd fertility

The Smiths milk 230 cows at Marriott Farm, near Lutterworth. Cows have access to grazing in the summer, and the herd yields around 8,300 litres/cow.

The milk contract is focused on the supply of winter milk, so calving has a seasonal bias and Mike only needs to make fertility visits over the autumn and winter months.

Mike explains: 'Some herds have moved away from all-year round breeding and adopted block or seasonal calving. So fertility visits are tailored to the needs of the farm. They also provide the opportunity to discuss other aspects of herd health, check youngstock and dry cows.'

In the autumn of 2011, the Smiths installed a heat detection system to help reduce their calving interval, and also keep milk supply in line with the demands of the contract. They opted for motion-sensing collars which signal to a central computer when cows are showing signs of heat.

This system has improved the detection of return to heats at 21 days (see Figure 1). Overall, it has helped bring calving interval down from over 420 days to around 411.

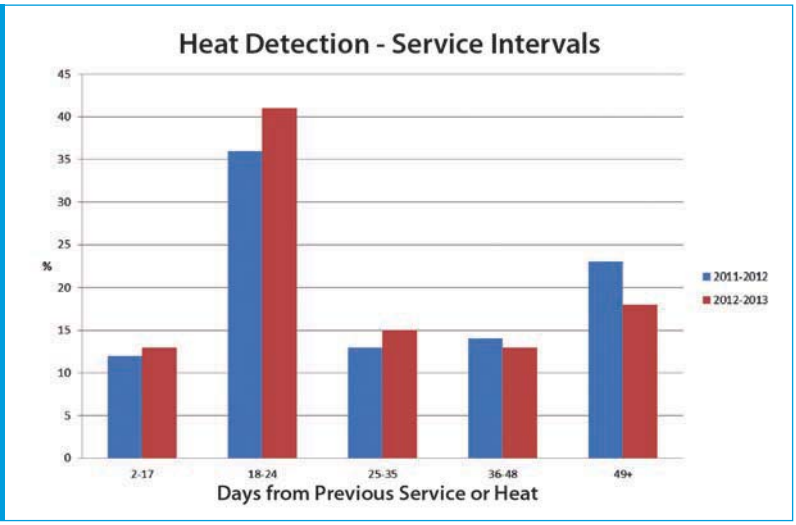
However, such systems are not the total solution, as Mike explains: 'Around 20% of high yielding cows will have silent heats. So a proportion of cows will still need veterinary intervention so they can be assigned to synchronisation programmes and fixed time AI.'

He adds: 'Silent heats can also occur when diets are low in copper. Farms using bore holes should also be aware that the water can be high in iron which will bind the copper and reduce its availability to the cow.'

The herd at Marriott Farm has a 100d in-calf rate of 42% - not far off the target of 50%. Calving interval is 411 days; replacement rate is 23%.

Nigel explains: 'Back in 2005 we had 150 cows and we've expanded the herd largely using our own home-bred replacements. So it's been important to keep involuntary culling to a minimum, and that includes not losing cows for failure to breed.'

Figure 1



The cost of good health

All dairy clients of Farm Vet Solutions are eligible to receive an annual review of vet spend. This is calculated by a software programme that interrogates the practice's management system and collects data on drugs and consultancy time for each farm. Information on annual milk production is entered into the programme and it can then calculate the amount spent on herd health per litre of milk produced.

Mike explains: 'For dairy farms, the costs are apportioned to four key areas: fertility, mastitis, preventative treatments and 'sick cows'.

'By being proactive to prevent disease and ensure good fertility, we expect that veterinary costs should not exceed 0.8p per litre of milk produced. And the maximum spend on any of the four main areas should be roughly no more than 0.2ppl.

'In the 12 month period from June 2012 to May 2013, the Smiths spent 0.61ppl on medicines and advice, see Figure 2. This is well below the threshold for concern, and is typical of well-run dairy herds.'

Fertility costs include the time spent on routine fertility visits and any associated drug treatments. Mike adds: 'Some farmers can be reluctant to have their vet make weekly or fortnightly visits, seeing it as an extra cost for the business to support. But, as can be seen from the figures at Marriott Farm, it's costing just 0.15ppl.

Nigel adds: 'This is money very well spent. Mike's checks allow problem cows to be identified and appropriate action can be taken sooner. It's a better option than letting calving indexes extend, which is reckoned to cost £3/cow/day.'

Mastitis costs include milking cow tubes and any systemic injectable treatments e.g. NSAIDs.

Mike adds: 'At Marriott Farm, cell count has fallen gradually over this past year, from 200,000 cells/ml in January, to a current level of around 155,000. The spend of 0.09ppl reflects the good control that has been achieved.

'If mastitis costs rise above 0.2ppl for a farm, it's time to take action and investigate more thoroughly to identify the mastitis pathogens involved, and actions required.'

In the costings analysis, the 'sick cow' category literally refers to sick cows, and also investigations, lameness, and any youngstock health issues.

The 'preventative' category includes all vaccines, dry cow tubes, teat sealant, and pre-movement TB-testing. At Marriott Farm, this is the biggest category, accounting for 41% of veterinary costs.

Mike explains: 'Disease prevention is where the majority of investment in health should be made. I'd rather see a relatively higher level of spend in this category, and a much lower spend in the disease treatment categories of mastitis and sick animals.'

The Smiths' herd is vaccinated against BVD and IBR, and leptospirosis is monitored through bulk milk sampling. Johne's disease is monitored via quarterly milk testing.

Nigel adds: 'Cow numbers have reached target, and we are planning to keep the herd closed from now on.'

Self-help

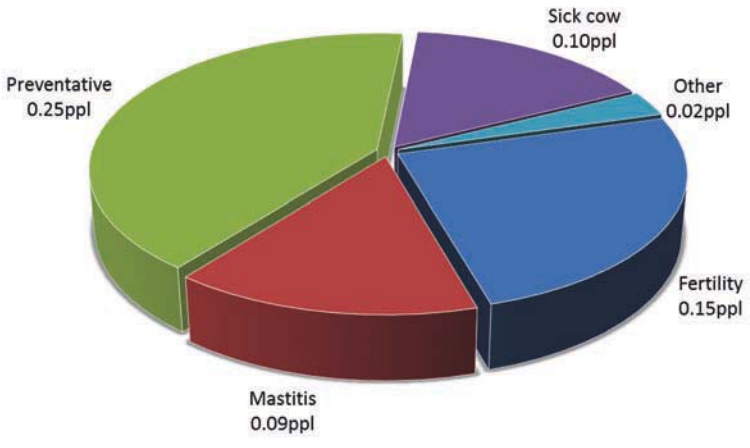
Mike has been supporting the Smiths for seven years, and a good working relationship has evolved. As well as discussing current health issues, Nigel and Suzanne discuss new ideas and technology with Mike, and get his veterinary opinion on them.

Nigel explains: 'If I've a sick cow, then I can call Mike and get some advice over the phone. Sometimes it can be resolved without needing a visit.'

Mike adds: 'Farmers can help themselves in keeping vet costs under control by getting trained up on basic veterinary tasks. Our practice runs a course every year on techniques such as treatment of bloated cows, stomach tubing, giving intravenous injections and taking blood samples. It's a day well spent.'

Fertility paperwork

Figure 2



XLVets has recently delivered a series of training events funded by Defra for farmers in the bovine Tuberculosis (bTB) edge area. Kate Hoskin from XLVet Training Services and some of the vets delivering the training report on some key messages.

Bovine Tuberculosis (bTB)

Bovine Tuberculosis (bTB) Edge area

What is the 'Edge'

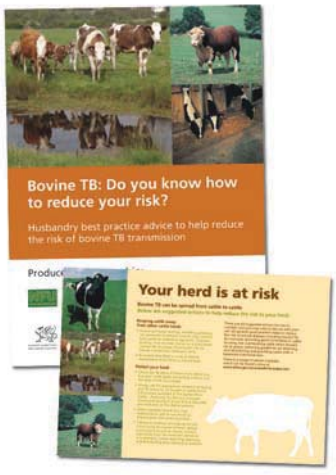
On 4th July this year Defra launched a public consultation on a new strategy for achieving Officially bTB Free status for England. Ahead of the outcome of the consultation, Defra has introduced further control measures designed to stop, and ultimately reverse, the spread of bTB at the frontier of the disease, known as the 'Edge Area'.

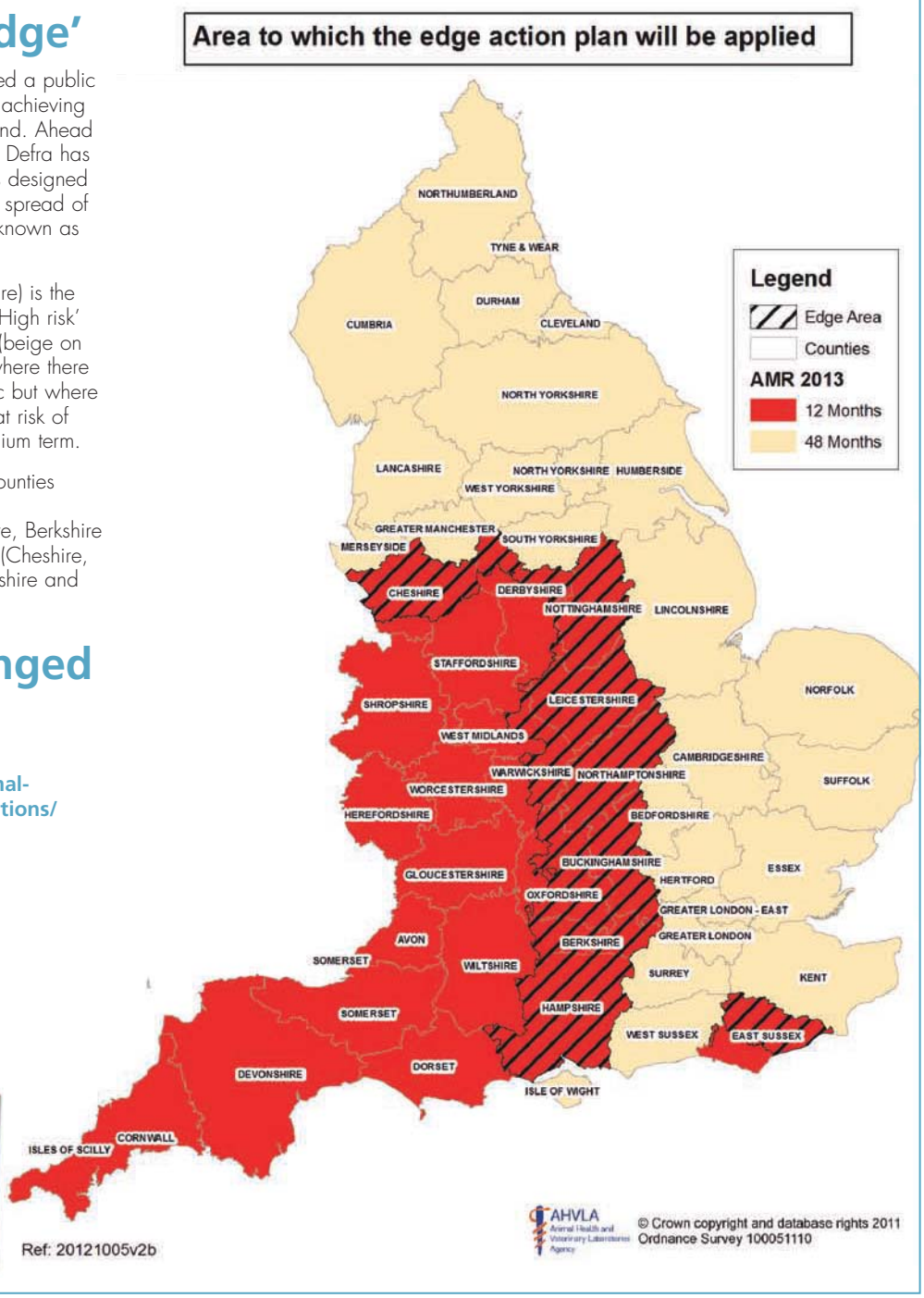
The Edge (red hashed on the picture) is the area between those identified as 'High risk' (red on the picture) and 'Low risk' (beige on the picture) for bTB. The edge is where there is no evidence that bTB is endemic but where infection is currently spreading or at risk of disease spread in the short to medium term.

The edge area consists of entire counties (Nottinghamshire, Leicestershire, Northamptonshire, Buckinghamshire, Berkshire and Hampshire) and part-counties (Cheshire, Derbyshire, Warwickshire, Oxfordshire and East Sussex).

So what's changed in the Edge?

Full details are available at **http://www.defra.gov.uk/animal-diseases/a-z/bovine-tb/publications/**





The 'Edge' - a summary

Testing	• Changed from four year testing to annual testing. • All farms within a 3km radius of a TB breakdown in Derbyshire and Cheshire will have an immediate skin test and another test six months later. No movement restrictions are applied to herds in the 3km area - unless their tests identify reactors or the tests become overdue.
TB breakdown management	• Herd must pass two consecutive skin tests (rather than one) at severe interpretation before movement restrictions can be lifted. • Compulsory gamma interferon blood testing (this is also discretionary for herds where TB is suspected but not confirmed). • Detailed epidemiological investigation and analysis.
Preventative measures	• Removal of CTS links between high risk and edge areas - BCMS is in the process of contacting farmers. • Promotion of 'Risk Based Trading' • Funding for badger vaccination. • Support for vet-farmer meetings and local boards.

Measures that farmers in the Edge area can consider to help prevent the spread of TB

Talk to your vet about developing a herd health plan. Many of the measures you can take against bTB are also useful prevention measures for other diseases.

- If possible, keep/switch to a closed herd. If this is not possible 'develop a "buying-in" protocol' i.e. check the TB status of herd and ensure evidence of pre-movement test. Ideally isolate bought-in stock for two months and then conduct a post-movement TB test.
- Maintain effective field boundaries (of at least three metres) between neighbours' cattle, goats, camelids or deer and avoid shared water sources.
- Do not share housing or grazing with other farmers' stock. Remember field boundaries and water sources for stock away from home.
- Secure stock buildings and feed stores against access by badgers.
- Avoid grazing near badger setts or latrines. Be aware that intensive grazing encourages cattle to graze margins of fields where there is a greater risk of infection.
- Reduce wildlife access to supplementary feed (including blocks) at pasture.
- Store manure for six months and/or do not graze for two months after spreading.
- Ensure stock transport moving on and off your farm is clean and disinfected.
- Conduct TB tests promptly and provide safe and efficient handling facilities. Isolate any reactors and inconclusive reactors (IRs).

Good handling facility - double yoke crush

Badgers eating from a feed chute (photo courtesy of AHVLA)

Vet viewpoint

Bridget Taylor
Wright & Morten

'Whether you are in the high risk area, low risk area or the edge, buying-in cattle can be a risky business. If you are purchasing stock it is important to find out as much as you can about the TB testing interval and history of the farm selling the animals, as well as how long those animals have been on the farm. This will allow you and your vet to assess the relative likely risks of purchasing animals from one unit in comparison with another. Auction marts can assist by asking vendors for the information and displaying it in catalogues and in the ring - i.e. supporting risk-based trading - as has recently happened at a rare breeds show and sale at Chelford.'

wright & morten
Veterinary Surgeons

> "...the Skin Test is considered to be the best herd screening test because it produces the lowest number of false positive results."

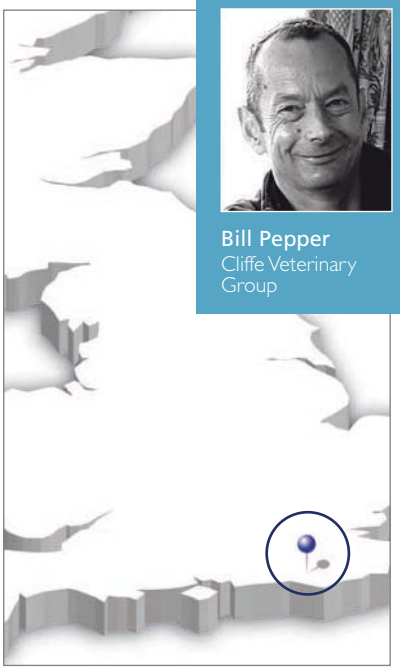
Vet viewpoint

Rob Henderson
Midshire Veterinary Group

'Of the two available tests for Bovine TB in live animals, the "Skin Test" is considered to be the best herd screening test because it produces the lowest number of false positive results. It's ability to identify infected cattle is just over 80% when carried out in handling facilities giving good, safe access to the animal's neck in a well-lit area. Testing accuracy will deteriorate with poor handling facilities and adverse weather conditions. The "Gamma Interferon Blood Test" is reserved for use in new breakdown herds and can detect infected animals earlier. It will detect more infected cattle than the skin test. When used together, these tests are capable of finding and removing TB infection from new breakdown herds quickly. Both tests are capable of identifying infected cattle before lesions or bacteria can be found in the carcass'.

MIDSHIRE
FARM & EQUINE
A partnership for health

Vet viewpoint



Bill Pepper
Cliffe Veterinary Group

Bill Pepper of Cliffe Vets in Sussex agrees with Rob's comments: 'Farmers in the edge area now face the compulsory use of the blood test as well as the skin test. This will lead to an increase in the number of reactors killed but the policy should contribute to a quicker resolution of a new breakdown, as well as the creation of a TB-free firebreak around the high risk areas'.

CLIFFE
VETERINARY GROUP

Report from the XLVets international farm meeting

Dairy calf and heifer losses

When? How many? Why? What can you do?

Dr John Mee Moorepark Dairy Research Centre, Ireland

Richard Matthews Castle Veterinary Surgeons, County Durham

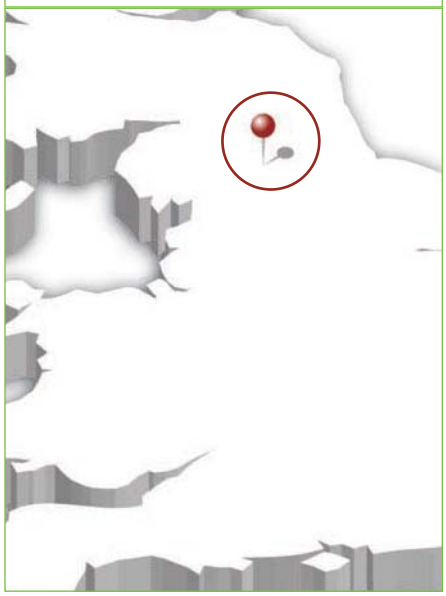
Dr John Mee, from the Moorepark Dairy Research Centre in Ireland presented a selection of recent research findings on the rearing of dairy calves and heifers. Below are some highlights from his presentation at the XLVets international farm meeting, with comments from XLVets' Richard Matthews of Castle Vets in Barnard Castle, who was one of the delegates at the conference.

Dairy calves and heifers were sometimes the 'forgotten' animals on a farm, claimed Dr Mee. They received less attention than the main dairy herd, and were seen as a cost because they were not giving any returns.

Dairy youngstock certainly were a cost, said Dr Mee, and one which farmers frequently underestimated. In Ireland, the cost of rearing a heifer replacement is around €1300-€1600 (£1000-£1300). This makes them the second highest cost on a farm after the feed bill.

Only once heifers had entered the milking herd, could they begin to pay back the investments made. So the health and management of calves and heifers ultimately has a big impact on farm profitability. Preventing unnecessary losses along the way was key.

Castle Veterinary Surgeons



True assessment of losses

Dr Mee explained that there was often a mis-match of opinions between vets and farmers on which are the most important health issues and the scale of a health issue.

He presented results from a survey that demonstrated how perceptions could vary: vets considered not feeding enough colostrum and not controlling Johne's disease through colostrum management, to be twice as important as did farmers. The vets also believed cases of diarrhoea in calves to be 50% more important than the farmers thought. Conversely, lameness and ringworm were more than double a concern for farmers than vets.

Dr Mee suggested that lameness was a very visible problem which farmers saw every day. However, when it came to calf losses, it was easy for farmers to have a farm 'blindness' and underestimate the extent of the problem.

XLVets' Richard Matthews agrees that losses are often under-estimated on farms.

'No one likes to think about dead calves,' says Richard. 'But until there is a systematic recording of such health "events", then it is harder to be sure what is happening on the farm, and impossible to truly measure the extent of the issue.

'So no matter, how "uncomfortable" it might be, accurate recording is fundamental. These records will form the basis of discussions with the farm vet on troubleshooting and performance monitoring e.g. weighing heifers or using weight-bands to check growth rates are on track.

Reasons for calf losses

The reasons for calf losses change as the animals get older, explained Dr Mee.

Ireland has a national scheme which records information on births and deaths of all calves. According to this database, in the first month of life, enteric (gut) diseases account for over 40% of mortalities, e.g. coccidiosis, diarrhoea and septicaemia.

In calves from one month old and up to a year in age, respiratory infections are the main cause of death and account for about a third of cases.

Dr Mee also drew attention to the proportion of deaths for which the cause was not diagnosed. These increased as calves got older: around 8% of losses were undiagnosed in calves of less than one month old. And this figure rises to 18% in heifers over a year old.

Richard Matthews agrees that as well as recording calf deaths, it is also important to record the reasons for it, and for this a postmortem may sometimes be necessary.

Richard explains: 'Sometimes it can be quite obvious why a calf has died. For example, it may have been scouring for a week. So the cause of death is scour. But, what was the cause of the scour?

'Diarrhoea in young calves can be due to one or more of the following: viruses - rotavirus and coronavirus; cryptosporidiosis - caused by a protozoa; and E.coli - a bacterium common in the environment, which can affect calves in the first few days of life.

'Once one calf is scouring, then the causative organism is multiplying rapidly and can infect the other calves in the group. This may then compromise their performance, or similarly, cause their death.

'So it is best to talk to your vet about calf losses so that preventative action can be taken. Postmortems are not always necessary as there are some good calf-side tests which can be used to identify the reasons behind scour quite quickly. But be aware that samples are best taken when scour first starts, if the causative agent is to be found.'

Richard adds: 'Even with remedial drug treatment, it's difficult to get animals to regain their full potential once they have been affected. So, whether it is scours in young calves, or respiratory diseases in older calves, prevention is always better than cure.'

Survival rates

Dr Mee presented findings of a UK study of 506 heifers, across 19 dairy herds. The biggest risk period for calf losses was in the first 24 hours - mortality rate was 8%. And total losses from birth to first calving amounted to 22% of calves born. (See Figure 1).

Richard Matthews adds: 'That's a mortality rate of one in five calves! And it doesn't take into account the reduced performance of other calves that may not have died, but whose performance was compromised by disease. Once the reasons for calf losses are identified, then steps can be taken to prevent them.

'The more calves that survive and thrive and can go on to be productive members of the herd, then the better the profitability of the herd.'

Wastage of heifer replacements

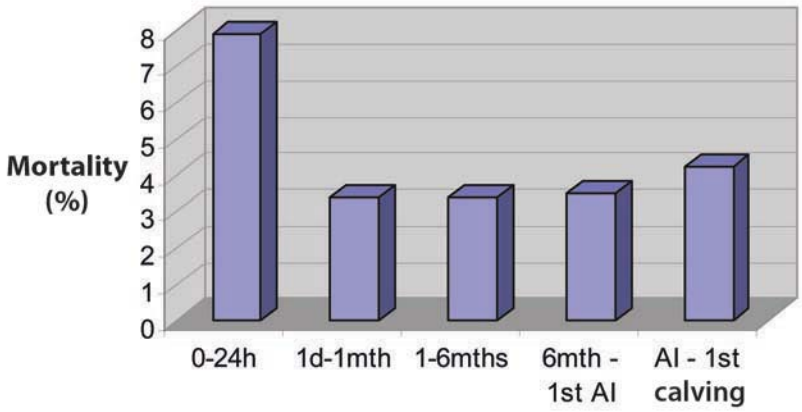
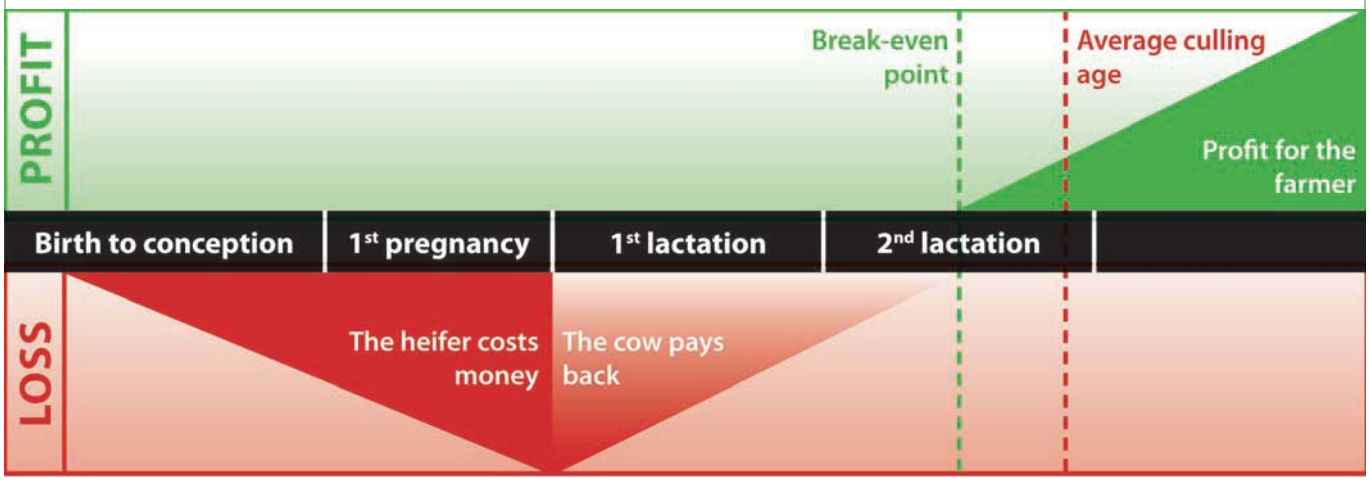


Figure 1

A look at 'the big picture'

As the diagram shows, the key to profitability is to maximise the percentage of calves born that survive to reach their second lactation when 'payback' can begin.



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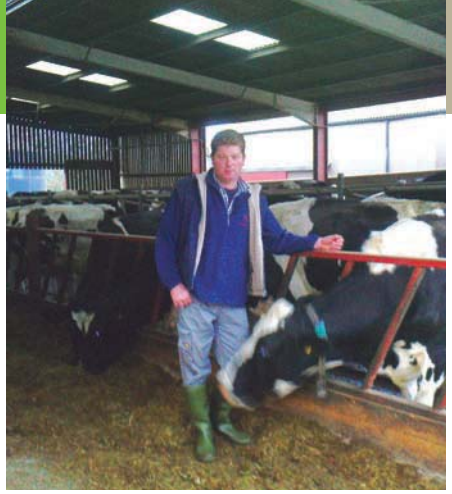


BVD case study - Watergate farm

It is estimated that 90% of UK cattle herds have been exposed to BVD. With active BVD virus costing from £50-£100 per breeding animal it pays to monitor and eradicate BVD from your herd.

Watergate Farm, near Harrogate is a good example of a farm working to eradicate BVD from their herd. The Baul family are milking a closed herd just short of 200 pedigree Holsteins averaging 9,000 litres milk sold/cow/year. The farm's calving interval is currently at a respectable 415 days, with a 100-day in calf rate of 33%, with all cows served by AI to black and white sexed semen. At Watergate they sell many of their high value freshly calved pedigree heifers, so loss of heifer calves or poor fertility will hit them hard financially.

The Bauls recognise the threat posed to their herd by BVD so have been vaccinating for almost 20 years. Besides vaccinating, the Bauls work closely with their vets, Bishopton Veterinary Group, to monitor infectious disease by carrying out yearly heifer cohort bleeds and regular bulk tank testing.

BVD wasn't apparently an issue until four years ago when problems started occurring. The herd vet found a poor doing heifer with respiratory disease along with multiple oral lesions, this immediately sounded alarm bells and a PI (persistently infected) animal was suspected. This heifer was confirmed to be a PI. As this animal was only 18 months of age its cohort had escaped the previous year's testing as they were too young to be eligible.

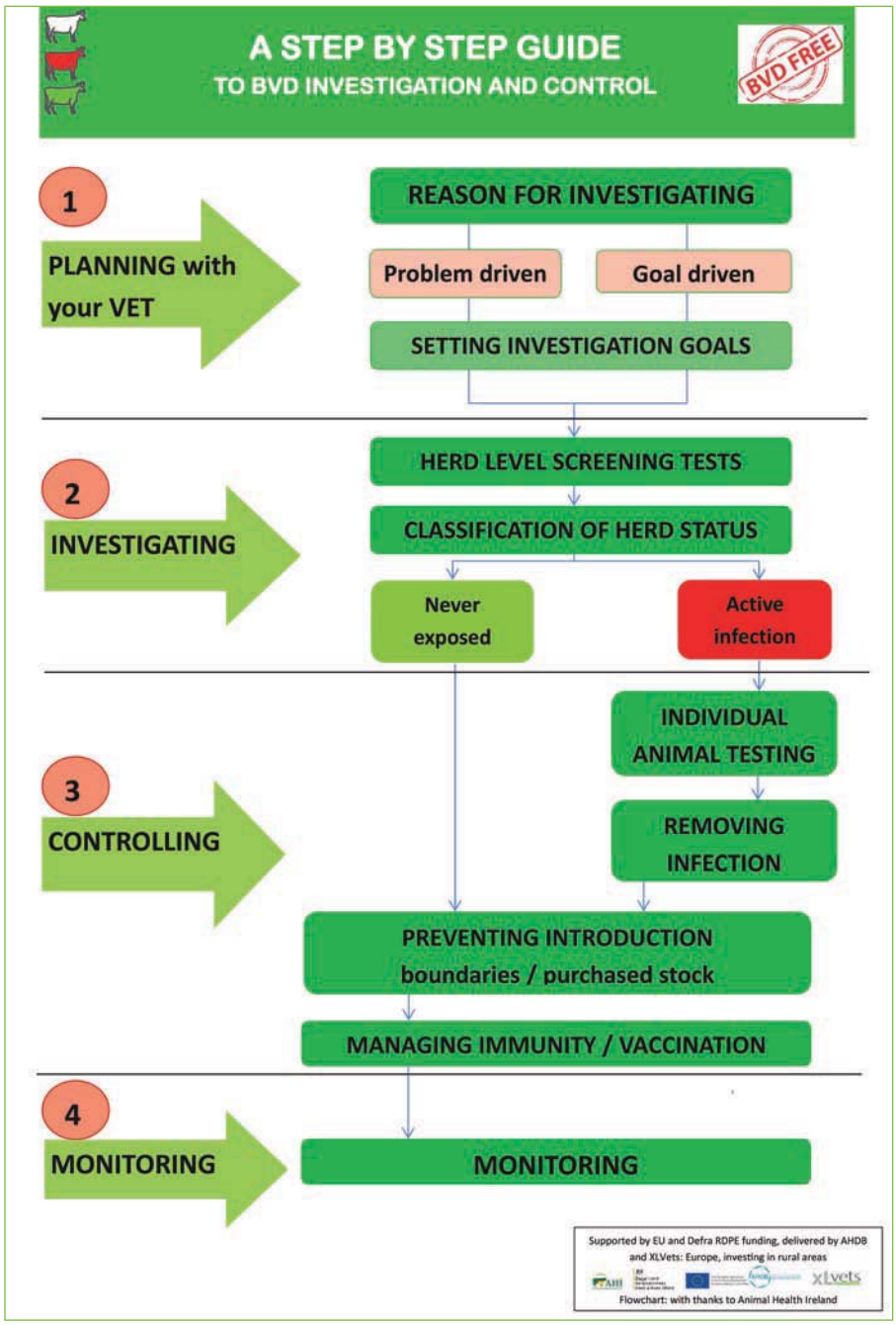
This all tied in with previous misalliance issues in groups of heifers all in calf to a beef bull that didn't belong to the farm. When the outbreak was investigated it became clear that these heifers were not covered against BVD by the vaccine, due to a combination of primary course and booster timing failures.

A thorough investigation was required as it is likely that there are other PI's in the herd. A PI hunt was started, with initially just all milking cows, dry cows, in-calf and bulling heifers blood sampled and pooled BVD antigen test carried out. This revealed another PI in the milking herd, which again was removed.

Moving forward a strict vaccination protocol was re-implemented along with regular bulk milk BVD antigen testing and heifer cohort bleeds. Surveillance showed no signs of circulating BVD and everything seemed fine.

A year on, bulk tank BVD antigen showed positive and a heifer cohort bleed of 10 non vaccinated heifers 9-18 months old, was carried out. This revealed BVD was once again circulating as nine out of the 10 heifers were positive for BVD antibody. Although this could have been due to a transient infection, it was hypothesised that there may be a number of PI's within the herd. The Bauls' imminent worry was adding a PI heifer to the milking herd, and thus exposing pregnant cows to BVD. As a precautionary measure all bulling and in calf heifers were blood sampled and BVD antigen was tested for in pooled bloods. Three heifers were positive for BVD antigen, these were isolated and confirmed as PI's three weeks later, so removed from the herd. Finding more PI's in the younger animals wasn't a huge surprise as a young stock bleed wasn't carried out at the time of the last PI hunt, but also cows sampled may have been acting as a Trojan horse and carrying undetectable PI calves.

It was assumed that no PI's were present in the milking herd as they had been screened as negative only a year back. All youngstock over a month old were then bled, again looking for BVD antigen. This revealed two more PIs, which were both removed. Once all the younger calves were over a month old they were also sampled. Watergate Farm is



now at a stage where there are no PI animals present within the herd, but the risk period isn't over just yet.

As the whole herd has been exposed to BVD any one of the pregnant cows could be carrying PI calves still to be born. So for the next year there is a high chance that a cow could give birth to a PI. In this case early testing and removal of any PI's is essential. Due to the inconvenience and demands of continuing to blood sample many calves, the Baul family decided to use a BVD ear tag tissue test. This meant all calves were tagged shortly after birth, as they normally would be, but now a small tissue sample would be collected and sent away to be tested for BVD.

As the Baul family recognise the huge impact of BVD, it was very important to them to eradicate BVD from the herd. Through routine testing and therefore knowing their BVD status they were able to act quickly when circulating BVD was demonstrated. Knowing your BVD status and regular surveillance is essential on every farm allowing you to decide whether monitoring and biosecurity or testing and eradicating are your main priorities.

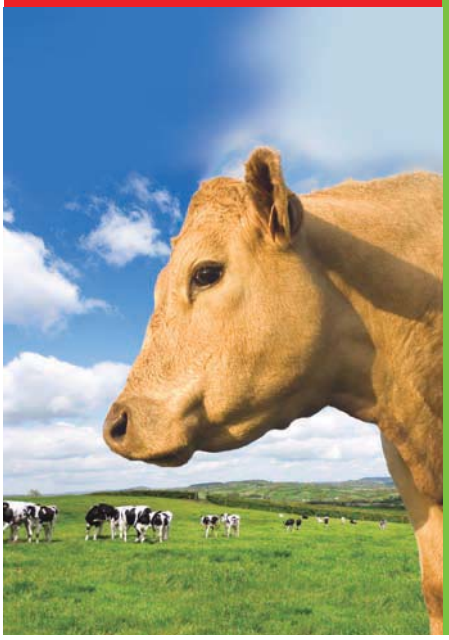
Moving forward the Baul family continue to use an ear tag tissue test for BVD, at least for a year after the last PI was removed. They are continuing to implement a strict vaccination protocol and for added protection they are trying to avoid grazing bulling and in calf heifers in perimeter fields next to neighbouring cattle, due to their potential risk for producing PIs. As an additional step double fencing is being considered.

BVD-Free England

Industry stakeholders from the NFU, Breed Societies, Livestock Auctioneers, Universities, Levy Bodies, pharmaceutical and testing companies are coming together to define and develop a national BVD control strategy for England. To help form this strategy, an RDPE programme is running, which XLVets Training Services are helping to lead, to share consistent messages about BVD control with vets, farmers, industry advisors and field staff and to start to map the occurrence of BVD across the country using consistent processes.

A wider programme evaluating the variety of schemes already in place is also running through the Royal Veterinary College to help share knowledge across regions and countries to ensure the English scheme which develops is effective in meeting the needs of the industry.

For more information, talk to your farm vet, or check out the dedicated website: www.bvdcontrol.co.uk



STUDENT DIARY

Emily Collier, Usk, Monmouthshire

Fourth year student, University of Bristol

Welfare...and farewell!

As I enter my fourth year at University, I find myself wearing a slightly different hat. Veterinary students have the opportunity to take an intercalated year - essentially, we take time out of the vet course to get a degree in another subject. As the content of the vet course is so expansive, there is not much time for reading around subjects or looking at research papers so this is the perfect chance to specialise in a narrower field.

I have been fascinated for many years by animal behaviour so the 'Behaviour and Welfare Science' course was the natural choice for my intercalated degree. Bristol's animal behaviour and welfare research group is very highly acclaimed and this was a huge factor in helping me decide which university to attend. It seems to me that understanding behaviour is the next big step not only in companion animals but also in farm animal production, although it is a factor which has long been overlooked. I have always been practically-minded so I am particularly interested in the use of behaviour knowledge to increase production - for example herd hierarchies in cattle affecting access to feed and water and therefore impacting on milk yield, or understanding how we can modify sows' behaviour to reduce piglet mortality.

On the course, we are paired up with a supervisor, who is one of the researchers in the behaviour group, and we undertake a research project alongside lectures and seminars. The variety and scope of the projects are really impressive - from looking at the relationship between parasite burden and behaviour in sheep to investigating the use of cow brushes to identifying hens with naturally blunter beaks to reduce feather pecking. Building on the wide knowledge base I developed at the Ruminant Lameness Conference over the summer, I am looking at the use of pain relief to treat cattle lameness. At present, it is rarely used despite the fact that lameness has been proven to be significantly painful to the cow for a long duration. I will be chatting to vets and farmers and looking at farm records to understand their thoughts on pain relief and hopefully help to increase its use in the future.

I am now at the end of my year as student columnist and just over halfway through my university career! I love being a student in Bristol, but already I am itching to get out into practice. For now, I have to be content with the farm vet placements I have planned for next summer, the Farm Animal Veterinary Society congress in February and a conference on TB in June. Exciting times!

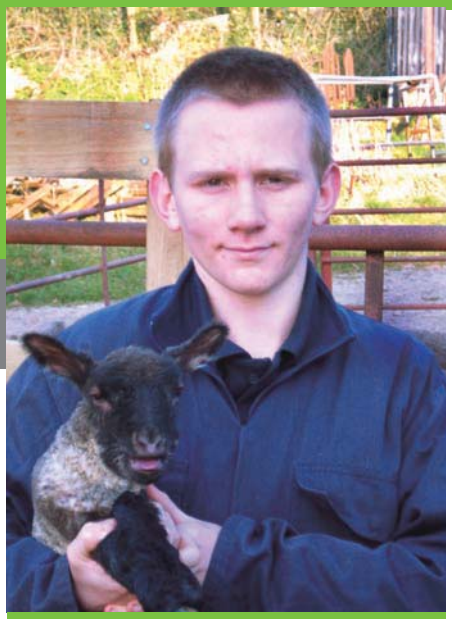
About me

I decided when I was seven that I was going to be a vet, and that I wanted to study at Bristol University. I am proud to say that's where I find myself now. I have lived in the same village in Monmouthshire all my life, surrounded by agriculture. I used to spend every spare moment with the horses, which were kept on a sheep farm. I would spend hours in the sheds at lambing time eagerly watching for which ewe would be next, and was always on hand to help with the shearing. I went to several (rather wild) YFC barn dances and the agricultural shows were the highlight of my summers. In addition to many weeks at local vet practices and equine centres, I have worked on the pig unit at Hartpury College and on a couple of local dairy farms; I actually loved the early starts, much to my own surprise! I also helped with lambing a flock of 1,000 ewes near Bridgend, which was certainly a steep learning curve but one which I fully enjoyed.

STUDENT DIARY

Sam Bowker, Exeter, Devon

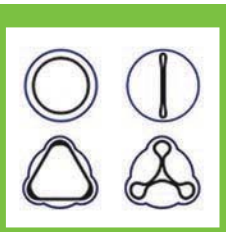
Fifth year veterinary student, Cambridge University



Biggest news yet...?

Biggest news since I last wrote is that my wonderful girlfriend Sarah has agreed to become my wife - we are to be married on the 5th July 2014, before the beginning of 6th year. As such, time this term has been filled with wedding planning, on top of vet school, hockey and church activities. The time seems to have flown by, and a lot of fun has been had - I am increasingly coming to the conclusion that I love being busy!

I'm currently also starting to think in detail about my elective project for final year. This is an eight week project split between four weeks on work experience and four weeks in the vet school, where we get to look at an area of interest in more detail. I have decided to focus on mastitis in dairy cattle, in particular the effects of triangular teat liners on Somatic Cell Count (SCC) and incidence of clinical mastitis. At home we are doing a trial with triangular liners over the next year or so, which will provide an excellent source of data (it is indeed a great blessing to come from a farm!) The theory is that triangular teat liners cause less trauma to the teat during milking, thereby reducing the risk of bacteria entering the udder. In addition, the clusters that are being used have a different mechanism of vacuum flow which reduces reflux of milk during milking, again reducing bacterial contamination of the udder. I look forward to seeing if they make a difference or not.



Triangular teat liners provide a three way massage and in theory cause less trauma to the teat than conventional round liners.

A group of us from Cambridge went up to the BCVA (British Cattle Vet Association) Congress in October for their first 'Student Day', and it was an excellent event. The programme put on for us involved seminars in the morning and on-farm visits in the afternoon, and was well worth the early start. There were three streams, focusing on lameness, fertility and mastitis; I went on the mastitis programme, and learnt a great deal about the milking machine and prevention of environmental mastitis. It was also a great opportunity to meet some more practising vets, as well as go round the stalls and relieve them of their freebies!

One of our reindeer poses for a shot - a big attraction at Cotley Farm Christmas Shop!

I'm looking forward to going home in a couple of weeks - from what I hear it has been as manic as ever; harvesting the cider apples, building a new silage pit, getting ready for the Christmas shop, all with lambing fast approaching. It's always a fun time, and it will be great to catch up with everyone in and around three weeks of work experience.

Wishing everyone a Merry Christmas and Happy New Year.

The ewes in-lamb for December

About me

I am a vet student about to start my fifth year of a six year course at Cambridge University. I grew up on a mixed livestock farm near Exeter in Devon. At home we milk 150 Friesian-type dairy cows, lamb 300 ewes (of which I have a flock of 25 pedigree Charollais), run 20 Devon beef sucklers, and until recently had an outdoor herd of 750 sows.

We also have cider orchards, 60 acres of spring barley, and run a Christmas shop during the month of December, selling trees, wreaths and meat from the farm, with four reindeer helping to draw the punters in! I'm a member of YFC at home who loves sport, and I hope to practise as a large animal vet once I graduate.

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FarmSkills: positive benefits from practical courses...

Lambing	Tyndale Farm Veterinary Practice	12 December	Gloucestershire
	Westmorland Veterinary Group	9 January 2014	Cumbria
	Millcroft Farm	14 January 2014	Cumbria
	Chapelfield Veterinary Practice	15 January 2014	Norfolk
	Ardene House Veterinary Practice	29 January 2014	Aberdeenshire
	Rutland Veterinary Centre	29 January 2014	Leicestershire
	Embryonics	30 January 2014	Cheshire
	WVM	3 February 2014	Cheshire
	Bishopton Veterinary Group	5 February 2014	North Yorkshire
	Pedmore	7 February 2014	Devon
	Talgarreg	17 February 2014	Dorset
	Hook Norton Veterinary Group	20 February 2014	Oxfordshire
DIY AI	Embryonics	2-5 December	Leicestershire
	Belmont Veterinary Centre	9-12 December	Herefordshire
	Embryonics	9-12 December	Gloucestershire
	Bishopton Veterinary Group	16-19 December	North Yorkshire
	Embryonics	16-19 December	Cheshire
	Pedmore	4-7 March 2014	Devon
Foot Trimming	Chapelfield Veterinary Practice	27-28 November	Norfolk
	Embryonics	2-4 December	Leicestershire
	Bishopton Veterinary Group	3-4 December	North Yorkshire
	Pedmore	10-11 December	Devon
	Shifted Cattle	22 January 2014	Somerset
	Lambert's Leopard & Mini	22 January 2014	Shropshire
	Embryonics	23 January 2014	Cheshire

Please note dates are subject to change

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