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AUTUMN EDITION 2011

Livestock MATTERS

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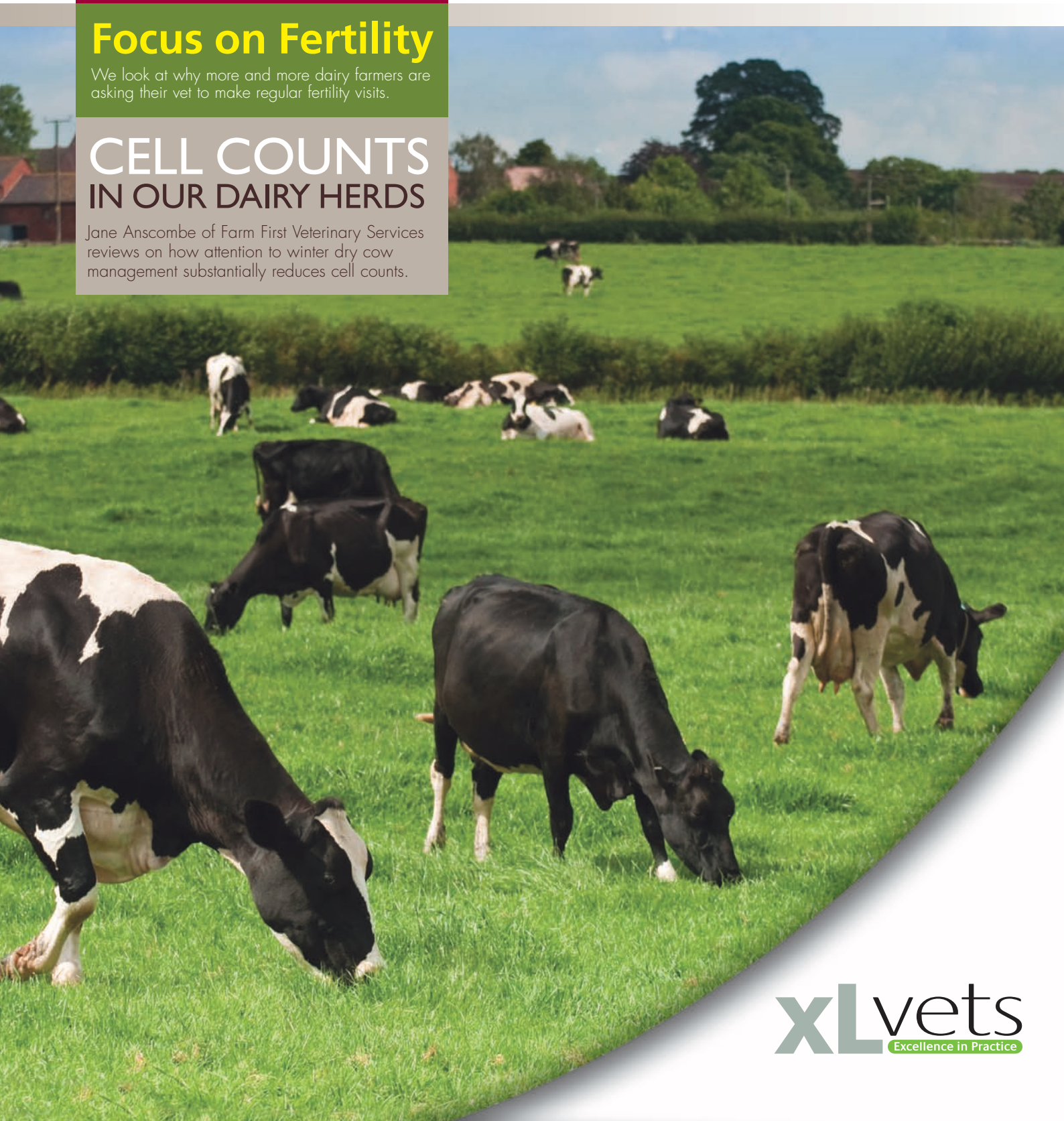

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THE EDITOR

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

As autumn approaches and the Dairy Event & Livestock Show is almost upon us, this edition focuses on fertility, cell counts and calf management in dairy herds. Good fertility is crucial to the success of any dairy enterprise, no matter what the size, and this article highlights the benefits that regular fertility visits have generated for two XLVet clients.

There's also practical advice for those who will be buying-in sheep in the autumn sales; Russell Fuller from Tyndale provides tips to ensure sheep brought on to the farm do not bring with them disease or health problems that could potentially affect the whole flock.

For those younger readers of the magazine who may be considering a career as a vet, we have thoughts and advice from Jack Ashby at Glenthorne on how to get ahead and decide if it's the career choice for you.

If you are attending this year's Dairy Event, XLVets are on Stand AH-151; please do come along and join in with the FarmSkills 'mini-bites' challenges we are running this year for your chance to win one of the FarmSkills famous green t-shirts.

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

Joanne Dodgson XLVets

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To keep fertility on track, more and more dairy farmers are asking their vet to make regular fertility visits. We focus on two XLVets farms who have benefited from regular visits.

The health and financial benefits of a regular focus on fertility...

TYNDALE
Farm Veterinary Practice

Veterinary Surgeon	Bryony Kendall
XLVets Practice	Tyndale Vets Ltd

Good herd fertility is a fundamental in dairying.

The sooner cows are back in calf, the better the annual milk yield, and ultimately, herd profitability. So in the months that follow calving, attention to the fertility of individual cows is essential. But all too often busy workloads mean problem cows don't get the attention soon enough and calving intervals stretch out.

To keep fertility on track, more and more dairy farmers are asking their vet to make regular fertility visits. And it's not just large herds that are seeing the financial benefits of a tighter calving interval. Small herds can also profit from routine visits.

Tim Mayo Threshold Farm

Bryony Kendall Tyndale Vets Ltd

Small herd benefits

It's certainly paid dividends for Gloucestershire farmer Tim Mayo of Threshold Farm in Harescombe. He milks 80 cows and thanks to a regular focus on fertility by him and his vet, the calving interval has significantly shortened, and annual milk yields have increased by nearly 500 litres/cow.

For Tim, working on the farm on his own, only those cows not served by 100 days from calving were given attention, and fertility was considered 'wet day' work. 'Veterinary input was ad hoc - it depended how busy I was,' explains Tim.


Tim Mayo

BRYONY KENDALL

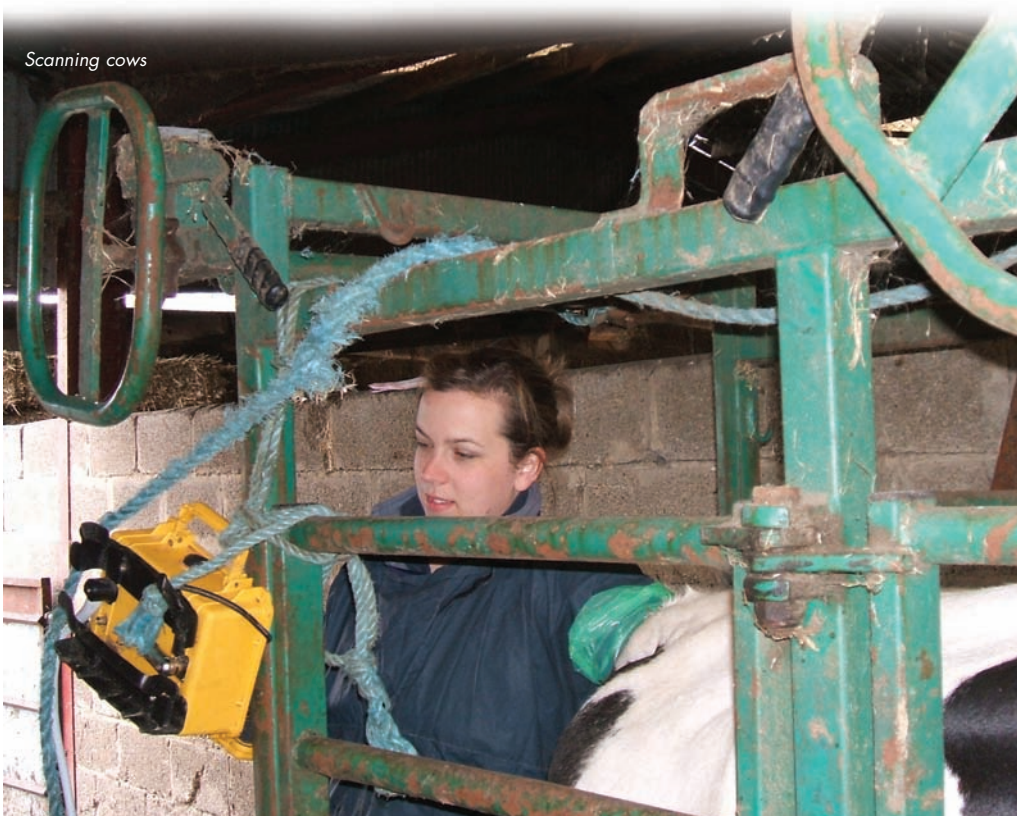
Monthly visits enable us to spot problem cows a lot sooner. Thanks to this regular focus on fertility, over the past year, the number of cows served within 100 days has increased...

But that's all changed now. Eighteen months ago, on one of the occasions that Tim's vet Bryony Kendall of Tyndale Vet Practice was on farm, she suggested monthly visits just for the winter to help Tim reduce his 417 day calving interval.

Bryony explains: 'Monthly visits enable us to spot problem cows a lot sooner. As it's a relatively small herd, I'll PD the cows served, and then check over those not served within 100 days and discuss these with Tim. We've used prostaglandin synchronisation to get some back on track. I also check fresh calvers and those that had difficult calvings.'

Thanks to this regular focus on fertility, over the past year, the number of cows served within 100 days of calving has increased from 66% to 81%, and the number in-calf at 100 days has risen from 25% to 37%. This has reduced the calving interval by 29 days, and increased annual milk yield from 6,700 to 7,140 litres/cow/year, with butterfat holding well at 4.2%, and protein at 3.28%.

Bryony adds: 'The reduction in calving interval is worth £9,000/year, or £120/cow/year, plus Tim has increased his milk sales.'


Scanning cows

Reviewing farm data

THE GLENTHORNE VETERINARY GROUP

EXCELLENCE IN ANIMAL CARE

Veterinary Surgeon	Gill Whitehurst
XLVets Practice	The Glenthorne Veterinary Group

Paul Thompson The Field Farm

Gill Whitehurst The Glenthorne Veterinary Group

Nutritional impact on fertility

Derbyshire farmer Paul Thompson has also reduced his herd's calving index and boosted annual herd milk yield, thanks to regular fertility visits from his vet Gill Whitehurst of Glenthorne Veterinary Practice, in Uttoxeter.

Paul farms together with his father Peter and brother Ian, at The Field Farm near Doveridge. Their 180-cow herd is block calved, with heifers calving down from mid-July and the cows from August onwards.

Gill first began making regular monthly visits to check cow fertility two years ago. She noticed that cows served in the autumn were less likely to hold to calf than those served later in the year.

Gill explains: 'I could see from the milk recording data that the cows which weren't holding to service had a bigger negative energy balance. They were not getting the level of nutrition they required, compared to those that had been housed on the winter ration by the time they were served.'

This prompted a joint meeting between Paul and Gill and the farm's nutritionist, who had also been concerned about the autumn diet. From this, the feeding regime has now changed - cows are buffer fed whilst out at grass in September, and once inside, there is more feed space per cow along the barrier. This has made a significant difference to conception rates.

During the calving period Gill visits every two weeks, and then monthly for the remaining six months of the year. Her visits include scanning all cows served 30 days prior, checking over cows not served by 60 days, and those not showing bulling by 42 days, plus resolving any post-calving issues like

retained cleansings, and checking over cows that had difficult calvings.

'I'm usually on the farm for a couple of hours and that includes a chat over a coffee to discuss the day's findings. Every 6 months we review the data and compare it with the previous year's performance, and plan ahead from there.'

Over the past two years, annual milk yield has risen from 7,000 to 7,400 litres/cow. Conception rates have improved from 35% to 42%, and the number of serves per conception which was 2.5, is now nearing the target of 1.8. Of cows culled, infertility is only the reason in 5% of cases.

Paul adds: 'Our Dove Park herd is pedigree Holstein, so we know we have the genetic potential. Now we've improved the nutrition we can get them into the next gear. We have limited scope to expand, so our goal is more yield per cow, and we'll sell the surplus heifers.'

GILL WHITEHURST

During the calving period Gill visits every two weeks, and then monthly for the remaining six months of the year. Her visits include scanning all cows served 30 days prior, plus resolving any post-calving issues…

Spin-off benefits of regular fertility visits

Having a vet on the farm on a regular basis also provides the opportunity to discuss other herd health matters and raise issues which on their own may seem small, but can nevertheless impact on margins.

Tim adds: 'It's like having another pair of eyes to look at a problem. I'd been wondering how to improve my youngstock rearing so that heifers could calve down at two years not two and a half. I discussed it with Bryony and she's suggested some options including contract rearing off the farm. She's also helped me reduce mastitis cases. The Dairyco mastitis plan brought up some interesting points and I'm now using a teat sealant and have put kerbs in the straw yards.

'I don't have the time to research all the facts, and get to the truth of the matter. I know I can rely on an independent viewpoint from Bryony who as well has having the veterinary knowledge, also has experience of what's been successful on other farms.'

Paul agrees: 'We used to only call the vet when there was a problem. But now we are all on board with having routine visits - it's the only way to go forward. Seeing Gill regularly means I get advice on an ongoing basis and we can nip any problems in the bud. Gill is also helping us work towards eradicating Johnes disease from the herd, and she's advised us on biosecurity protocols to keep it and other infectious diseases like IBR from coming in.'

IN SUMMARY

If you would like to improve conception rates, reduce the calving index and increase production, then speak to your local XLVets vet about making regular fertility visits.

Grass roots | Fertility

TYNDALE
Farm Veterinary Practice

Veterinary Surgeon	Russell Fuller
XLVets Practice	Tyndale Vets Ltd

RUSSELL FULLER MA VetMB MRCVS

Buying in Sheep

without buying in trouble...

As autumn approaches, many sheep flocks will need to buy in replacement ewes or rams. However, when buying in any sheep, there is always the risk of buying in either diseases or wormer resistance at the same time, even if the seller is well known to you. Consequently, it is vital that every flock has quarantine procedures set up to make sure that only new sheep arrive on the farm, not new diseases as well. This article will act as a starting point for setting up quarantine procedures, which should be drawn up alongside a vet, as all too often the sale is only a week before the ram is due to go in...

There are two choices where to buy sheep from – direct from farm or through a market. The key here is to try to source replacements from as few farms as possible (ideally one) and to find out as much about the disease status where the sheep are coming from, as well as any vaccinations etc. that they might have had. This is usually easier buying direct from farm, but flocks needing several hundred sheep are going to find sourcing them from one farm nearly impossible.

Irrespective of where the sheep are bought from, it is important that you use what you are told as a guide - don't believe everything you hear, as not too many people will admit in the market that their flock has sheep scab!

Buying in sheep:

- Buy from as few farms as possible
- Find out what you can
- Assume the worst
- Quarantine properly
- Protect the existing flock and replacements

Quarantine

The idea of quarantine is to prevent the transfer of diseases between the existing flock and any new stock. Remember this goes both ways - it is perfectly possible for the existing flock to infect the new arrivals.

The quarantine area has to be big enough to keep all the new stock in for a minimum of three weeks. This needs to include a field of 'dirty' grazing - ideally pasture that lambs have just moved off, a large enough yard to be able to shut everything in for 48 hours and all this without there being any chance of contacting the existing stock. This can be difficult to achieve but needs to be done for the quarantine procedure to be successful.

Dirty sheep – quarantine drench to prevent resistant worms.

After quarantine drench, keep on a yard for 48 hours.

Diseases and problems

Common problems that can be bought in include: resistant worms, liver fluke, sheep scab, footrot, CODD, enzootic abortion (EAE), caseous lymphadenitis (CLA), maedi visna (MV) and orf. This is by no means the complete list and so each farm will need to draw up their own procedures based on the diseases that are present on farm.

Wormer resistance

This is probably the biggest risk to sheep farming in the UK at the moment. Recent surveys estimate that at least 80% of farms have resistance to Group 1-BZ wormers (white drenches) and 30-50% have resistance to Group 2-LM (yellow drenches). All wormers in the same group act in the same way, so resistance to any wormer in the group means resistance to the whole group. Simply changing brand of wormer will not make any difference to levels of resistance. It is important when buying in that any resistant worms bought at the same time do not make it onto your farm. Remember you are protecting your flock from new problems.

The guidelines to prevent introduction of resistant worms are set out by SCOPS (Sustainable Control of Parasites in Sheep).

These are three simple steps.

- **Yard** - new arrivals need to be kept on concrete for 48 hours – this allows any resistant worm eggs in their gut to fall onto the concrete and be cleared away, rather than contaminate your field. Other diseases (CODD, CLA, orf etc.) should also be obvious.
- **Treat** - dose with monepantel (Group 4 -AAD, orange wormer - sold as Zolvix™), then Avermectins/Macrocyclic Lactones (Group 3-ML, clear wormer - e.g. Cydectin™) immediately after. If sheep scab is a worry then injectable avermectins can be used (see sheep scab section). This combination should kill all worms that are present.
- **Quarantine** - turn the sheep out onto dirty pasture - grazed by lambs as recently as possible. This makes sure that if by some chance a resistant worm does survive, its effect is minimal as all the farm's 'usual' worms will dilute out the eggs produced by the resistant worm.

In an ideal world, the paddock used as quarantine should be either rested next year i.e. not grazed until cut for silage or hay, or ploughed up and either re-seeded as a new ley or used for crops. This means that any worm eggs that do survive quarantine will not have the chance to stay on pasture over winter.

Wormer Groups

- **Group 1-BZ** - white drenches
- **Group 2-LM** - yellow drenches
- **Group 3-ML** - clear drenches
- **Group 4-AAD** - orange drenches (new this year)
- All wormers in a group work the same - resistance is to the whole group, not an individual product

Proper worming

- **Weigh** - DON'T guess, dose for the heaviest
- **Calibrate** - check the gun is giving the correct dose
- **Technique** - dose over the back of the tongue

SCOPS Guidelines

- **Yard** - 48 Hours
- **Treat** - monepantel and moxidectin
- **Quarantine** - dirty pasture for three weeks

Liver Fluke

Buying in sheep from an unknown source carries the risk of buying in liver fluke. On many sheep farms, liver fluke is already a problem, meaning the flock will be dosed regularly. However, some farms remain unaffected and so all new arrivals should be treated for liver fluke. This should be done using triclabendazole (sold as lots of different brand names). Triclabendazole is 99% effective against adult fluke but only about 90% effective against three day old fluke. Fluke need to grow for twelve weeks in the liver before they become adults and can lay eggs. This means dosing the sheep as late in quarantine as possible is the best thing to do as there will be more adult fluke present. The best time to dose is three days before the sheep are moved off the pasture.

Triclabendazole resistance in fluke is rare, although cases are now being reported in west Wales. Consequently, sheep farms which have fluke problems and buy in regularly may need to use a different product, such as closantel, as a winter fluke dose, to limit any resistance build up. Again your own vet is the best source of advice.

Liver Fluke:

- Treat with triclabendazole
- Products are more effective against older fluke, so delay treatment
- Dose three days before the end of quarantine
- May need to use closantel in the winter

Sheep Scab

This is becoming more of a problem nationwide, to the extent now that any bought in sheep should be assumed to be infected. Two options exist for control - dipping and injecting. Dipping is the method of choice as it has all the benefits on controlling lice, flies and ticks at the same time. Any dip used needs to have residual action lasting for at least 17 days because the scab mites can survive off the sheep for this long, so could reinfect the recently dipped sheep.

If dipping is not an option, then scab should be controlled using an injectable product. If no signs of scab are present, a single injection of moxidectin should act as a safeguard (plus it will be part of your worm control programme) but if any itchy sheep are present then two doses ten days apart are essential to ensure all scab mites are killed.

Sheep Scab:

- Survives off sheep for 17 days
- Use a dip with residual action
- Injectable Avermectins/ Macrocyclic Lactones - check treatment regime as varies by product (some may require two or three injections for treatment of sheep scab.)

One ram? No yard? Use a trailer

Feet

There are two diseases that need to be controlled during quarantine - footrot and CODD (Contagious Ovine Digital Dermatitis), which looks like a very severe footrot but is much harder to control. Although most flocks will have some level of footrot, it is worth remembering that 10 different strains exist and they all differ in how easily they spread and how badly they affect the sheep. Footrot and CODD are spread by 'carrier' sheep so any bought in sheep must be assumed to be infected by both the most severe footrot strain and CODD. Inspect the feet of all incoming sheep and treat any affected animals. The best way to treat footrot is a single injection of long-acting oxytetracycline and only think about trimming feet 3-4 days later. If these animals could be isolated in a corner on their own, this would be ideal.

During the quarantine period, the sheep should be footbathed weekly. This is usually done through 4-5% formalin, although other commercial preparations exist. It may be best to use an antibiotic footbath, although this needs to be decided with the farm vet.

A vaccine against footrot is also available (although not CODD). The vaccine acts by decreasing how severe cases of footrot are and also limits how many footrot bacteria these 'carrier' sheep put into the soil. Footrot bacteria can survive in the soil for about two weeks so weekly footbathing is needed to prevent reinfection. The vaccine could be given to either the existing flock or the replacements, depending on which group is the most likely to infect the other - something that will vary from farm to farm.

Feet:

- Footrot
- CODD
- Inspect all and treat
- Footbath weekly
- Footrot survives in the soil for 14 days

Infectious diseases

There are numerous other diseases that could be brought in. Isolating replacements for three weeks should allow you to check for many of these, as by the time all the other jobs are done, the sheep will be handled regularly.

Some diseases can be vaccinated against such as orf and enzootic abortion, whilst accreditation schemes exist to show that flocks are disease free e.g. maedi visna, enzootic abortion. Sheep coming from an accredited flock can be safely assumed to be disease free, as blood samples will be taken regularly and checked.

Where sheep are sold as vaccinated, it is best to ignore this and assume they have had no vaccines. We all know someone we wouldn't trust to vaccinate properly, so unless you personally know the seller (and trust them to have given the vaccine and done as good a job as yourself), it is best to err on the side of caution. Consequently, each flock will need to draw up its own plan for infectious diseases as the procedures will vary depending on which diseases are already present on farm.

Infectious diseases:

- Check sheep regularly whilst quarantined
- Accreditation schemes can be trusted
- Be very careful trusting somebody's word about vaccination
- Draw up a flock specific plan

Quarantine yard and footbath in one.

In Summary

When buying in replacements, a good quarantine procedure will prevent any exchange of disease between the existing flock and the new sheep, whether it's 500 breeding ewes or the new pedigree ram. This plan should be drawn up with your vet and tailored depending on the diseases already present. Remember always assume the worst as everybody knows somebody who 'bought the disease in'.

Buying in safely

- Take care when sourcing sheep
- Quarantine all animals on arrival
- Treat to prevent the introduction of resistant worms
- Treat for Liver Fluke
- Treat for Sheep Scab
- Treat for Footrot/CODD
- Treat for infectious diseases
- Develop a farm specific health plan

FARM FIRST VETS

Veterinary Surgeon	Jane Anscombe
XLVets Practice	Farm First Veterinary Services

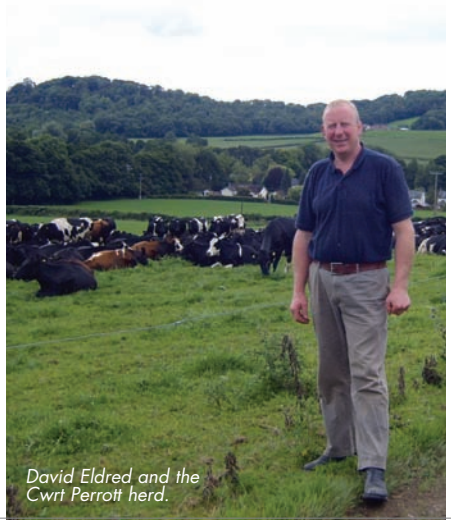
Attention to winter dry cow management substantially reduces cell counts

When cell counts started to rise at Charles Dowds' New Zealand style herd in south east Wales, their vet Jane Anscombe from Farm First Veterinary Services investigated. The changes made since then have resulted in the bulk milk cell count dropping substantially from 346,000 cells/ml in February 2010 to an average of 107,000 over the past 7 months.

The 400 cow herd at Cwrt Perrott, Monmouthshire is managed by David Eldred who joined the staff in August 2010. Most of the 400 cows are Jersey x Holstein, and they calve down annually between February and April. Yields average 4,500 litres/cow, and penalties of 0.5ppl are incurred if the bulk cell count rises above 250,000.

The cell count began to rise at the end of 2009 and individual cow cell counts were carried out for the first time. Some cows were given antibiotic dry cow therapy. As the cows started to calve down in February 2010, the scale of the problem grew as the bulk milk cell count rose to 350,000 cells/ml for the next 3 months.

Robert Smith from Farm First Vets gave some initial advice on identifying and segregating high cell count cows. A California Milk Test (CMT) was used to identify affected quarters and milk bacteriology from these showed that Strep. uberis (an environmental pathogen) and Staph. aureus (a contagious pathogen) were both causing the high cell counts in this herd. Monitoring individual cell counts allowed for targeted treatment of specific animals and in the worst cases, i.e. repeat offenders, selective culling was employed.



David Eldred and the Cwrt Perrott herd.

Jane Anscombe carried out a mastitis advisory visit at the beginning of April and the findings were discussed with the team on-farm. The first area of concern was the management of the dry cows over winter. In the winter of 2009/10 the dry cows were divided into three groups - the first group were strip-grazed on an area which had become poached and muddy over a hard winter; the second were kept in a wood-chip corral, the surface of which had become dirty over the winter; and the third group were kept in cubicles which were designed for much bigger cows. These were not bedded and the backs were scraped off once daily. All cows were moved into a straw yard 5-10 days before calving. The yard was clean and well bedded, but at times had a very high stocking density, and was only cleaned out every eight weeks.

David Eldred reports that the management of the dry cows over the winter of 2010/11 was much improved on the previous year. All cows were given Orbeseal™ and cloxacillin tubes at drying off. 150 cows were wintered away, where they were housed in a well ventilated shed on straw yards. The remainder were housed in the existing cubicle sheds at Cwrt Perrott. Gypsum was used on the cubicle beds, the backs of which were cleaned off regularly. All passages were scraped daily and the straw yards were cleaned out every 5 weeks. Also, as a result

David Eldred and Jane Anscombe discuss cubicle shed environment.

JANE ANSCOMBE

Jane carried out teat scoring in the 24/48 swing over parlour in which there are no ACR's. Fourty percent of the cows had significant teat-end damage, which was caused by overmilking...

of many of the cows being wintered away the stocking rate in the straw yards was much lower. During the summer of 2010 the wood chip corral had been sifted, which removed much of the faeces. Over the winter the corral was used for 65 of the later calvers, but they were moved out of this area as soon as space became available in the cubicle shed.

During the last year a large amount of effort has been put on resurfacing the many cow tracks on the farm. Extensive drainage works have also been carried out, allowing surface water to now run off the tracks. An increase in access points to the paddocks has also helped to reduce poaching in gateways. These improvements have improved cow cleanliness during lactation and reduced the risk of environmental mastitis.

Another main area of concern identified at the advisory visit was the parlour routine. Jane carried out teat scoring in the 24/48 swing over parlour in which there are no ACR's. Forty per cent of the cows had significant teat-end damage, which was caused by overmilking, because the single member of staff was not able to remove all the clusters when each cow had finished milking. David explained that a second person now milks, which allows more time per cow, which has addressed the overmilking. It has also enabled better teat preparation to be carried out and has resulted in earlier identification and treatment of mastitic cows. David has also changed the method of teat spraying, as some simple maths showed that the teat dip was not being used at the recommended rate of 15 ml/cow after each milking. Post-milking teat dipping is an important procedure to reduce the spread of contagious mastitis. The new garden sprayer system makes it easier to ensure good teat coverage.

With the rate of clinical mastitis running at 21 cases per 100 cows per year for the last seven months, there are few mastitic cows. These are now grouped separately and milked last.

Milk machine liners were being changed every 6 months, but in this large herd they were doing more than 6,000 milkings each. Bacteria are more likely to stick to a worn surface and spread from cow to cow, so the liners are now changed every $2\frac{1}{2}$ months, i.e. every 2,500 milkings.

David Eldred inspects the surface of the woodchip corral.

Jane Anscombe and David Eldred discussing parlour maintenance.

Sophie Throup FarmSkills Manager

FarmSkills

GROWING FARM BUSINESS SUCCESS

Enabling farmers to access high quality, consistent training wherever they live in the UK was one of the stated aims of FarmSkills when it was launched. After all, one of the great strengths of XLVets is its spread of practices across the country and it was felt using this network for training as well as veterinary services would be of benefit both to the practices involved and to farmers nationwide.

FarmSkills reaches Northern Ireland...

Now, for the first time, farmers across the Irish Sea are being given the chance to experience FarmSkills training on their home turf after Parklands Veterinary Group in Northern Ireland became the latest XLVets practice to launch a number of courses under the FarmSkills brand. In many ways it was a natural step for the practice as they had already been running successful equine, ruminant and pig conferences for a number of years which were attracting well over 200 delegates. With the funding available through the development agency for agricultural skills training in Northern Ireland, it made sense to build on this expertise with the introduction of more focused farmer-led workshops which could be offered at subsidised rates.

parklands VETERINARY GROUP

Once the commitment had been made, the practice arranged for a 'Train the Trainer' course for nine of its key staff, tapping into their individual skills and enabling the practice to have a number of trainers on hand for course delivery. With trainers ready and waiting, the next step was to launch the courses. Evening farmers groups proved a useful forum to get the word out there, together with the IT know-how of one of the trainers, but it still took time and persistence to encourage farmers to see how a day spent away from the farm could be of real benefit to themselves and their business.

John Grant demonstrates foot trimming

Undeterred, Parklands persevered and, by spring 2010, were able to launch their first FarmSkills workshops: Hoofcare and Lameness and Fertility/AI. These were soon followed by Lambing, Sheep Lameness, Sheep Parasite Control, Infectious Disease Control, Calf Rearing and Nutrition. Initial concerns about finding sufficient trainees soon began to fade as word spread about the practical content of the courses and the quality of training: 'very well demonstrated and explained and in a method a farmer could understand' as one of the attendees on the Lambing course commented. By ensuring all the courses were affordable and clearly focused on equipping farmers with skills which could easily be applied on the farm, FarmSkills was very rapidly accepted by the local community.

Ian Stewart with DIY AI trainees

Patrick Grant with the Sheep Lambing and Lameness group

The practice has also been able to see the benefits of offering this additional service to their clients. As David Mulligan, Parklands Practice Manager, commented: 'This has been a significant journey for the practice over the past six months and, at times, a fairly eventful one, but when you have had the opportunity to speak to a large number of trainees who have completed courses, engage in serious dialogue with representatives from such organisations as CAFRE, UFU and NIAPA and see how it has built bonds between the vets and clients, it has been a journey well worth doing.'

With the groundwork done, Parklands is now keen to keep the impetus going. Future courses in DIY AI, Nutrition and Lameness are already in the pipeline with many more planned for 2012.

Spreading the word at the NSA Sheep Conference...

Find out more...

So whether accredited through industry, or followed through the FarmSkills programmes of learning in the dairy, beef and sheep sectors, FarmSkills training is practical, hands on and delivers a business benefit to each farmer who attends. For more information about training available in your area, why not log on to our FarmSkills website;

www.farm-skills.co.uk

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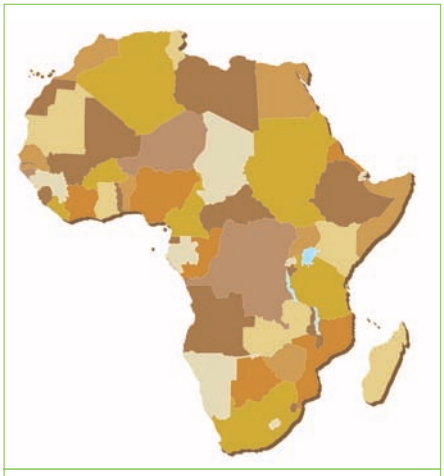

FarmSkills
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Africa

A different perspective: dairy development in Mozambique

Owen Atkinson BVSc CertCHP MRCVS Lambert, Leonard & May

XLVets is participating in a 42 month project to help improve dairy animal health and husbandry for farmers in the Manica province of Mozambique. Eight vets from XLVet member practices have so far successfully attended the project, which includes Owen Atkinson; here he tells us more about the project and the training being undertaken.

Lambert Leonard & May LLP
First in the field

Veterinary Surgeon	Owen Atkinson
XLVets Practice	Lambert, Leonard & May

Training dairy farmers in Mozambique is very different to training farmers back home. But wherever you are in the world, a cow is still a cow and to that extent there is a common language.

In fact, life in Mozambique is very different, let alone the training. In this fascinating and beautiful country of around 22 million people, life expectancy is only 41 years, and most of the population live in a grinding poverty which is hard to imagine for those of us in affluent Britain. Malaria, tuberculosis and cholera are endemic and in some areas around a third of the population is HIV positive. The country emerged from a devastating civil war 17 years ago which destroyed what little infrastructure was in place previously. Once a Portuguese colony, the country is at last a democracy and enjoys a stable enough environment to begin to take advantage of its large agricultural potential.

I was fortunate to go for two weeks as part of a collaboration between XLVets FarmSkills and Land O Lakes International Development. LOL is a large dairy and feed co-operative based in North America and its International Development division has over 20 years' experience in delivering USAID funded projects in Africa and other developing nations. The Mozambique project is almost unique in that it is an attempt to kick-start a dairy industry from a base line of nil. That is to say that there is no culture for milking cows or consuming dairy products, and so infrastructure and knowledge are practically non-existent. My role as an XLVets volunteer was to help deliver training in animal husbandry and health to current and prospective dairy farmers and Community Livestock Workers (CLW's - rudimentary 'bare-foot vets'). By dairy farmer, don't be imagining chaps with milking parlours and herds of cows; I am talking about men or women with one, perhaps two cows milked by hand.

Why dairy?

My first question was: why introduce dairying, as opposed to other potential aid? **The reasons are interesting.**

1. Dairy farming is possibly the most effective way of lifting subsistence farmers out of poverty. Selling milk creates a good year round cash flow, compared with crops, for example. In addition, cows create capital; a cow is an investment which will grow as calves are born. So capital and cash-flow both help to create a kind of middle-class who have a hope of self-improvement through education of some of their children and by affording some basic healthcare.
2. Cows convert cheap forage into milk. In Mozambique, land is not the limiting factor (there is loads of good, fertile land in areas of good annual rainfall), but the ability to cultivate it is the problem, given that it is all done by hand with hand-tools. So grass is abundant, at least at certain times of year, and only requires young boys to cut it (by scythe) for feeding to the cows, which is then converted into milk. No machinery is required and no time consuming cultivation and weeding.
3. Dairy produce is a valuable source of nutrition (fats, protein, vitamins and minerals) to a local population in which nutritional deficiency is rife. Pot-bellied children fed a protein-deficient diet of maize meal are depressingly common - the condition is called kwashiorkor.

OWEN ATKINSON

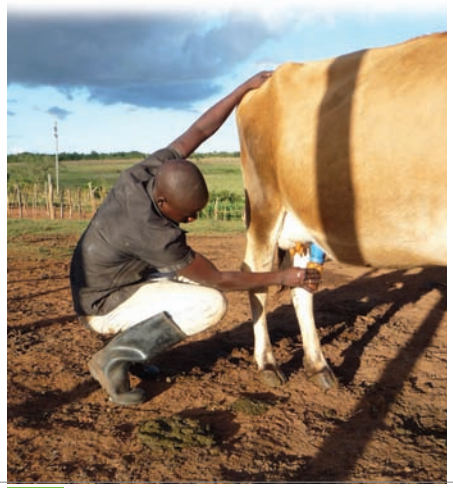
Most farmers have 1 cow but one entrepreneur is already up to 14 cows; he buys and processes milk from other farmers too, selling yoghurt in plastic pouches through street vendors.

Challenges:

The next question I had was: 'how?' To start a dairy industry from scratch is mind-bogglingly challenging - and this is where the LOL expertise is invaluable. Some components to consider are:

1. Promoting a culture of drinking milk and consuming dairy products.
2. Considering how to convert milk to something which lasts more than a few hours - there is no electricity let alone refrigeration here, outside the main towns. Basic processing includes boiling and then inoculating to produce yoghurt, or some larger farms (50 cows plus) might consider their own pasteurisation unit and cheese production. There are plans to build an UHT plant in the region I was working in, using foreign investment. This would create a huge demand for local milk production, but the investment necessary runs into the $millions.
3. A supply chain must be set up going from cow to milk collection centre (MCC) to processor to retailer to consumer. Of course the supply chain might be as simple as fresh milk from cow to farmer and his immediate neighbours, but this will limit the opportunities for more widespread wealth creation as the local market becomes saturated.
4. Having the correct cow. The Mozambique project has bought in-calf Jersey heifers from South Africa to loan to the farmers. Farmers eventually pay off their loan when they return another in-calf heifer back to the project. The Jersey is relatively heat tolerant, pliable and will not milk excessively to the detriment of her own body condition. However, she is not resistant to the plethora of local cattle diseases (mainly tick borne) so must be zero-grazed and religiously treated for ticks every week. Milk production typically peaks at around 18-20 litres and 4-12 litres is common-place. Milking, of course, is by hand. Plans are afoot for cross-breeding the Jersey with the local breed cows, which are used for meat and draft animals. The F1 cross will be more disease resistant, but not as milky.
5. **Training:** some send-a-cow type projects in the past have famously fallen flat on their face due to lack of expertise on how to care for and feed these exotic milking beasts. Cow death rates in the first year are often 20% or more. The LOL Mozambique project is rightly proud of its first year adult death rate of just 2.5%, which is testament to the support and training it gives to the farmers. For example, each community has a trained Community Livestock Worker whose responsibility it is to tick spray every cow in their community every week. Farmers only receive a cow after completing a training course, building a suitable compound and storing a minimum of hay. Cows which aren't cared for properly are removed from the farmer.

6. **Mastitis and milk hygiene:** there is no electricity, no refrigeration, no running water and little education. Milk for sale must be transported by foot between 1 and 10 km after each milking to the MCC - all this leads to a high risk of rapid souring. Keeping bacteria out of milk when milking by hand into a bucket on a dusty floor with a dirty tail constantly swishing and flicking away the flies is no mean feat - especially if the milker does not make the connection between dirt, bacteria, milk keeping abilities and ill health. In addition, hand milking, poor hygiene and lack of medicines make mastitis a real threat. There is no fancy equipment to measure milk quality - just CMT for mastitis (cell counts) and an alcohol test for bacterial contamination: a very basic agglutination test indicative of milk pH which is indicative of souring.
7. **The milk collection centre:** as electricity is scarce, or at best unreliable, the MCC must have its own generator for the cooler and tank. It must have its own bore hole for a water supply, and of course someone to operate the centre. All this must be financed (thus reducing the price paid to the farmer).
8. **Fertility:** artificial insemination (AI) requires trained technicians, a supply of liquid nitrogen, a means of transport (bicycle) and preferably a mobile phone network (to phone the AI technician). It also requires good heat detection which is hard with one cow, harder still if that cow is thin. Keeping Jersey bulls is dangerous particularly when housed in pens walled with flimsy pieces of wire and sticks hand dug into the ground. Getting the cow to the bull is also a challenge. The Mozambique project is using a combination of bulls and AI.
9. **Water:** in the Mozambiquan heat, each 400kg Jersey cow drinks 80-100L water. This is carried to the cow daily, in 20L drums, usually on someone's head from a distance of 1-3km. Some farmers or communities have closer access to streams. Larger farms (5 cows or more) will pipe water from a nearby well or stream.



10. **Veterinary Care:** there isn't any! Medicines are minimal; the only antibiotic widely available is oxytetracycline injection. With time, as a dairy industry develops, veterinary pharmacists will have an incentive to source dairy medicines and entrepreneurial Community Livestock Workers may develop rudimentary veterinary services.

So none of this is easy and it is remarkable what progress the LOL team has achieved in 18 months. So far there are 165 Jersey cows being milked by approximately 120 farmers. Most farmers have 1 cow but one entrepreneur is already up to 14 cows; he buys and processes milk from other farmers too, selling yoghurt in plastic pouches through street vendors. Two other more commercially minded farmers have diversified into dairying and have around 20 cows each. They supply the one large commercial farm in the area; 150 cows owned by an exiled white Zimbabwean couple. This farm is the main milk buyer and processor, making cheese and selling pasteurised whole milk. To get just this far has cost the project $3 million; a lot of money in any language but especially in Mozambique.

My involvement:

I met up with fellow UK vet, Peter Edmondson, in Zimbabwe and crossed the border to Mozambique. Over the next 2 weeks, we trained 298 farmers/potential farmers and 24 CLW's and LOL field staff. Training was a huge amount of fun. Given that none of the local population speaks any English and Peter and I are hardly fluent in the local language, Shona, reliance on the spoken word would not work. Although 3 way translation (English => Portuguese => Shona) was used, and if we were lucky, direct translation to Shona, we relied more and more on acting and role playing. Lionel Blair and Una Stubbs would have been proud of us.

Our games became increasingly imaginative with women pretending to be cows in heat whilst a farmer had to spot them and an AI technician had to get them pregnant! There was a lot of giggling; Peter even had a group burst into spontaneous song. Hopefully we weren't just seen as two strange white people waving our arms around in front of a crowd of bemused locals. In fact at the end of each day's training, farmers would proudly re-tell the new things that they had learnt. Our training was hugely helped by some great lesson plans devised by previous XLVets volunteers.

Was it worth it?

In the weeks before my departure, I was frequently asked 'Why on earth are you going to Mozambique?' I must admit that I was beginning to wonder myself. Giving up two weeks' holiday and paying for expensive flights, let alone leaving my family, especially my very beautiful and long suffering wife Laura, behind to venture into the unknown, could be seen as a rash decision. However, being something of a travel addict, I was quietly confident it would pay off. I was not disappointed.

The project is undoubtedly doing a lot of good and the benefits should be lasting and sustainable. This is all about wealth creation and giving people a leg up, definitely not a hand out. We spoke to farmers, who said their lives had changed, for example by being able to send one or two of their children to school and to feed the whole family better. All this whilst providing better nutrition for their neighbours. There is definitely a feel good factor being involved in something like this, despite our realistic appreciation of the tiny part we have played.

As mentioned, I am a bit of a travel addict and this is not because I like queueing at airports or being cooped up overnight on a plane, but because like many people, I am interested in the wider world. I feel amazingly fortunate that my career gives me unparalleled opportunities to see and experience different cultures first hand. It is infinitely more rewarding than watching a documentary or reading the papers. This was my first foray into sub-Saharan Africa and there is plenty to learn and experience. Feeding the world and the role of dairying is something that most vets and dairy farmers will have an interest in; I feel I can now place a few more pieces of the puzzle.

Additionally, from a very practical point of view, the opportunity to use novel training techniques has been a great experience. I enjoy training in any case and I am interested in learning better communication skills to produce change. Watch out for more singing and dancing in future trainings!

Finally, two weeks with no phone or email contact, immersed in a culture where time has little meaning, no rush, no panic, minimal stress: that's surely worth having in anyone's book. Mozambique was, for me, full of smiles and laughter; quite a tonic really from the demands of my usual life.

PULL-OUT GUIDE

PULL OUT & KEEP

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07 COLOSTRUM MANAGEMENT

Colostrum is the fuel of life and making sure your calves get enough is the cornerstone to all successful calf rearing enterprises. However, it is not as easy as you might think to succeed. Here we highlight the '4 Q's' of colostrum management to ensure calves get off to the best possible start in life.

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PULL-OUT GUIDE

Guide to Colostrum Management
Adopting the critical 4Q's

Colostrum supplies essential nutrients and antibodies and as new born calves have no protective antibodies to resist disease challenges it is essential that these are absorbed via colostrum. If you miss out any of the following 4Q's to colostrum management then you should not be surprised to see poor health, low growth rates and high mortality in calves.

Q1. QUALITY

Colostrum quality can vary enormously between animals, so only feed good quality colostrum, tested using a colostrometer.

Quality can be poor for many reasons:

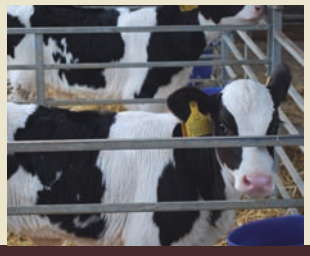
- **Age of cow** - colostrum from cows in their first lactation usually contains fewer antibodies as they have yet to be exposed to a wide range of pathogens
- **Breed of cow** - Holstein colostrum typically contains lower antibody levels than that from Jersey cows
- **Short dry periods** of less than three weeks
- **High yielding cows** - those producing more than eight litres at first milking with poor transition diets
- **Poor hygiene** - high levels of bacteria in colostrum have been shown to reduce the uptake of antibodies by the calf

Good quality colostrum should be frozen ready for future use, e.g. when a dam's colostrum is of poor quality or unsuitable for use. Alternatively a commercial colostrum alternative can be used but make sure it has been independently tested and check the nutrient density.

Q2. QUANTITY

Feed a minimum of three litres in the first six hours, split into two feeds if necessary.

Remember, a calf requires approximately 20 minutes of continuous sucking to consume three litres of milk from the cow.



Q3. QUICKLY

Ideally, colostrum should be fed as soon as possible after birth, and at the latest within six hours.

At birth the calf's gut is permeable which means it can absorb the large antibody molecules directly into its bloodstream. Over the first 24 hours the gut rapidly 'closes' and these molecules can no longer be absorbed, so it is essential that the calf absorbs sufficient antibodies as soon as possible, after birth. Continue feeding colostrum for at least the first three days of life if possible, as this has been shown to have other benefits encouraging early gut development and laying a solid foundation for fast, efficient future growth.

Q4. QUIETLY

If calves are stressed while being fed colostrum, then they won't absorb the antibodies as efficiently as those that are calm. This means a stressed calf will require more colostrum in order to achieve the same level of immunity.

The Colostrometer

The Colostrometer is an easy to use piece of kit, calibrated to colostrum density, that rapidly tells you whether maternal colostrum is of good quality.

Simply place the colostrometer into the provided cylinder and wait to see where it floats to.

- If in the green area then the colostrum is of good quality and can be fed or frozen.
- If in the amber area then the colostrum is of average quality and you should consider supplementing to ensure the calf receives enough protective antibodies.
- If in the red area then the colostrum is of poor quality and should not be fed or frozen.

To ensure accurate results always test colostrum at a temperature of around 22°C.

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www.farm-skills.co.uk

Workshops on cell count and milk quality control are available all year round. We also cover milking routines and parlour hygiene as well as milking technologies and robotic milking.

NSA North Sheep 2011

This year the NSA sheep event headed back north to West Nubbock Farm near Hexham. One heavy rain shower early on didn't dampen the spirits of the thousands that took time off from their busy schedules to attend the event.

There was a friendly buzz about the place and once again the FarmSkills stand and its plethora of green t-shirt clad helpers took full advantage of the situation, with a lambing simulator challenge, tying a halter out of a single piece of rope and of course the now infamous FarmSkills juggler. We had people literally swarming around us vying to win one of the vibrant green t-shirts and to find out more about the courses on offer.

Thanks go to Jonathan Stockton (Kingsway), Claire Davies, Lee-Anne Oliver, Douglas Palmer and Roger Scott (Scott Mitchell), Jenny Hull (Alnorthumbria), Martin Peat (Castle), Kevin Beattie and Andrew Reid (Capontree) and Judith Lee (Westmorland) who came along throughout the day to help on the stand with Sophie Throup (FarmSkills), Iain Richards and Alyson Staines (XLVets).

Many of the XLVet members managed to catch up with their clients who had come for a day out which is always good and there was much interest in both FarmSkills and XLVets in general which kept us very busy for the entire day. We all agreed that the venue was great and so was the turnout and once again we received very positive feedback from all those who visited the stand, learnt a new skill and left inspired, eager to participate in a FarmSkills workshop near them.

A great success at the UK's first National Herdsman's Conference

LKL hosted the **UK's first ever National Herdsman's Conference** on 22nd and 23rd July at Harper Adams to mark the 60th anniversary of the company, with no fewer than three XLVet speakers addressing the 100-strong audience.

Targeting anyone involved in day-to-day dairy farming, the conference aimed to give practical hints and tips, as well as exploring some wider industry issues, with speakers such as David Alvis who looked at the future of large scale herds in the UK.

From the XLVets team, Jonathan Statham from Bishopton Vets discussed how to optimise the vet/herd manager relationship emphasising openness and communication as critical to success. Jon Reader of Synergy Farm Health examined the health and welfare implications of lameness and mastitis in dairy herds. His talk looked at the overall herd performance impact of these two ongoing health challenges as well as the response to different treatment and management approaches.

Lambert, Leonard and May's Den Leonard spent some time looking at costs and losses associated with the 'hidden' diseases - infectious diseases such as BVD, Leptospirosis and IBR. Commonly recognised as coming closely behind lameness, mastitis and fertility as areas of economic loss for a herd, he discussed how to best work with your vet to understand the challenge your herd is facing and then to develop a control plan. Typically, such plans will be quite broad encompassing management issues such as bio-security, protocols for buying in stock and vaccination.


Jon Reader


Den Leonard


Jonathan Statham

LKL intends that the conference will become an annual event, so look out for more details next summer.

CAREERS
ADVICE AND GUIDANCE

Jack Ashby from Glenthorne Veterinary Group describes his first year in practice and offers advice for those considering a career as a vet.

Careers: Veterinary Surgeon

Veterinary Surgeon	Jack Ashby
XLVets Practice	The Glenthorne Veterinary Group

Nine months into my first job as a mixed practice vet and I'm already managing to feel confident enough with things to relax a bit and enjoy work. I knew being a vet wouldn't be easy, but I'd hoped that once I gained MRCVS status it would all become much easier…so only now are the words of advice given to me at my graduation hitting home; 'You're qualified, but it'll be a good 5 years until you really feel like you can call yourself a vet.' So with the next major leg of the journey to becoming a 'vet' ahead of me, it's comforting to be able to look back and see how far I've already come. Working within an XLVets practice has made my life as a new graduate much easier. I have in-practice help from a large team of 17 vets, on top of that are the resources and support made available by working for a practice that is part of the XLVets group and yet I'm not pressured by dictation from above on how I have to treat and manage cases. In the next five years I'll be drawing heavily on this support network for advice, but this article gives me the chance to give something back and offer advice to the younger generation.

If you are thinking about a career as a vet, where do you start? The only ways you can practise as a vet in the UK are with a veterinary degree from one of the 7 UK Vet Schools, with a recognised veterinary degree from an EU university or with a non-accredited veterinary degree from a foreign university and then passing an involved RCVS entrance exam.

Unfortunately veterinary degrees are amongst the most oversubscribed in the UK. This is due in part to the relatively static intake levels of the vet schools, only increasing gradually in line with the demand for vets, but also due to veterinary surgery being made increasingly appealing over the years, starting with the 'James Herriot' books and furthered in recent years by countless television programmes glamorising the profession. Given the level of competition this causes, applicants need to demonstrate not only academic prowess but also commitment to animal care, initiative, a good work ethic and more!

Getting a place at your chosen university is going to rely on a strong application. High grades in science and having work experience under your belt by the time you apply is a minimum. To increase your chances it's best to keep up with extra-curricular activities, sports, DofE and anything else that makes you stand out from the crowd.

Application to UK Vet Schools
Universities with veterinary courses

Bristol
http://www.bristol.ac.uk/vetscience/

Cambridge
http://www.vet.cam.ac.uk/

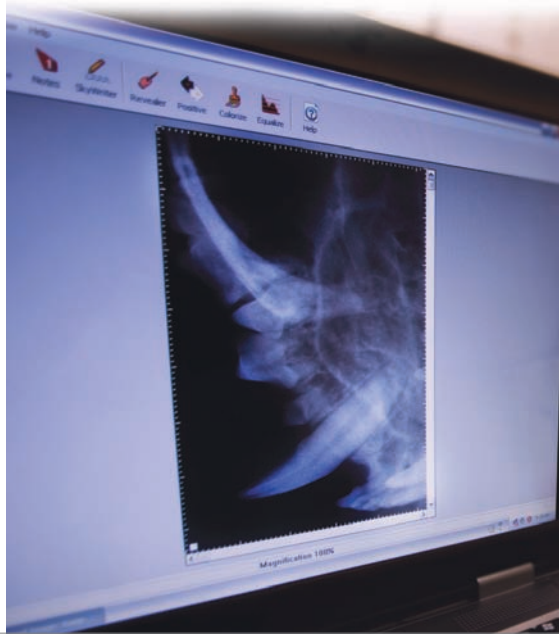
Edinburgh (Royal Dick School)
http://www.ed.ac.uk/schools-departments/vet

Glasgow
http://www.gla.ac.uk/schools/vet/

Liverpool
http://www.liv.ac.uk/vets/

London (Royal Veterinary College)
http://www.rvc.ac.uk/

Nottingham
http://www.nottingham.ac.uk/vet/



You could even combine your efforts, for instance using a sport/club that you're involved with, to put on a fund raiser for an animal charity is a good use of your time and resources and shows initiative. It may also open new doors, providing you with contacts which allow you to do more work experience.

Although there's nothing wrong with repeatedly seeing practice at your local vets over a few years, the universities really rate people with broad ranges of experience. This may mean doing work that relates to areas of veterinary practice that don't appeal to you, but it shows that you have a grasp of the broad range of work that vets do and that you're happy to push yourself out of your comfort zone. Not everyone wants to become a small animal vet or work with dairy cattle, but you'll still have to learn all about them and pass their respective exams at university. Add to that the fact that views often change with time, as you learn more you may find yourself pulled from one area to another, so make sure you give everything a go, you might be pleasantly surprised!

You might be starting to think that all of this work experience and extra activities are going to take a lot of commitment and use a lot of your spare time and you'd be right!

This is a really important factor, one that persists throughout and after your degree (in my 5 years at university I was required to spend a minimum of 38 weeks holiday performing unpaid placement work) and is another reason universities want you to see so much before you apply... Starting a degree is a big investment for both the university and you. A wasted place due to someone dropping out of the course because they decide it's not for them is very bad financially for both the university and the individual... not to mention it means someone else has missed out.

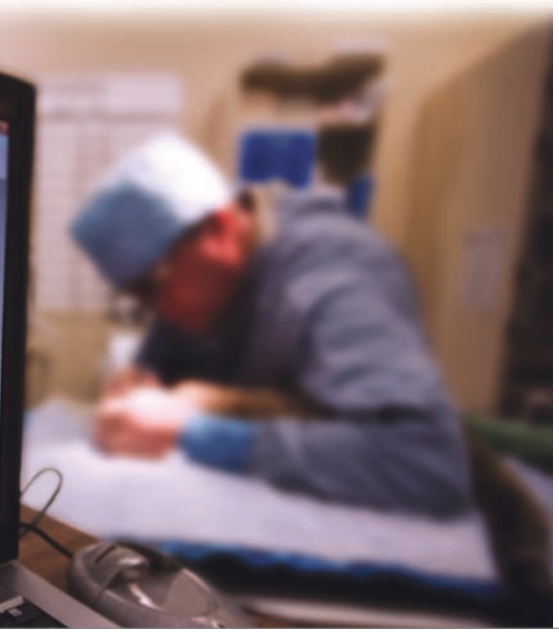
I can't emphasise how important it is to be totally infatuated by the career before you start. For every brilliant day spent out and about in green fields enjoying the sunshine, many more hours will be spent toiling in a muddy, freezing ditch or in the pouring rain at 2am. Despite this you have to enjoy what you do or you won't last. I won't lie, I don't enjoy being woken up in the night, but I do enjoy the feeling when the cow has been successfully assisted to calve or when you can reassure an owner that their horse's colic isn't life threatening. I hate putting people's pets to sleep, but I console myself knowing that we gave them the best quality of life whilst they were alive and prevented them suffering unnecessarily at the end.

I think, because of this seesaw nature of veterinary medicine, the only way you can tell if it's for you is to go and see practice and find out. I was a typical teenager, when my parents would ask what I'd done at school they might get a monosyllabic answer if they were lucky, usually just a grunt or sigh. After my first day of work experience at a local veterinary practice I didn't shut up from the moment I got through the front door to when they fell asleep...I'd truly been bitten by the bug and there was no going back.

Work experience at an XLVet practice is a great place to start. Most of the practices are mixed, so it's a sensible use of your time; it's not unusual for one part of a practice to go quiet for an afternoon, so rather than just waiting for farm calls you could step into small animal consultations or go out on an equine call! Keeping a diary of the interesting cases you see and finding out why we vaccinate and worm animals will also help you for interviews at university. When you're on a placement, ask questions! If you're wondering why you can't just feed a cow more to get more milk, or why some horses have to have their grazing restricted, just ask! Placements are for learning and questions are the best way to find out more. Seeing work at an XLVets practice allows you to meet a range of farmers/stable owners that you could potentially work for to gain experience. You can then use the practice as a base for your work experience when at university and who knows, maybe even for your first job!

WORK EXPERIENCE CHECK LIST:

- ❑ LARGE ANIMAL (FARM) PRACTICE
- ❑ EQUINE PRACTICE
- ❑ SMALL ANIMAL PRACTICE
- ❑ DAIRY FARMING
- ❑ BEEF FARMING
- ❑ SHEEP FARMING (LAMBING)
- ❑ PIG FARMING
- ❑ POULTRY FARMING (LAYING/BROILER)
- ❑ RIDING STABLES
- ❑ KENNELS/CATTERY
- ❑ ABATTOIR WORK
- ❑ LABORATORY WORK
- ❑ ZOO WORK



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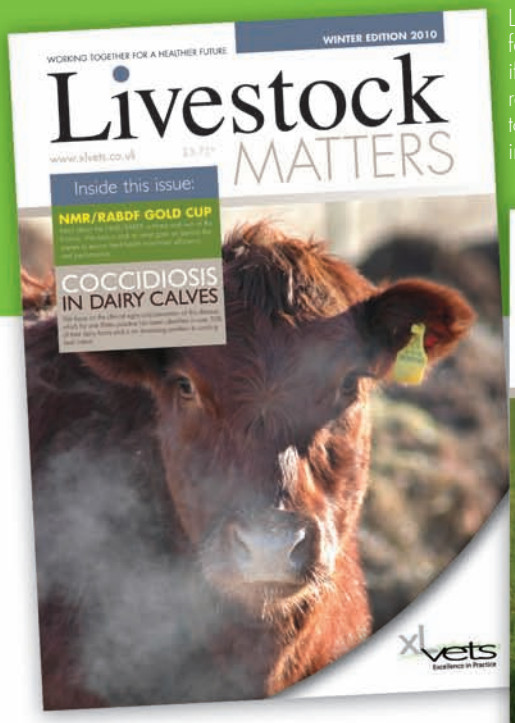

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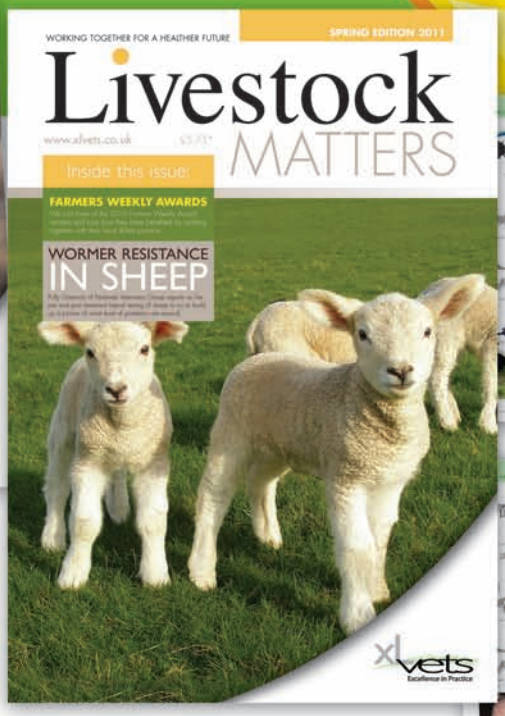

Livestock Matters is produced quarterly and each issue covers a wide range of subjects, including:

- Informative articles on topical diseases
- Regular animal health features - including case studies from XLVet member practices and their farms from around the country
- Farm health planning - disease prevention
- Industry articles - looking at what's new for farmers to improve health and productivity

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Job Title

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