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SPRING EDITION 2012

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Inside this issue:

BVD CONTROL

The importance of knowing the disease status of your herd can prove essential in the disease being successfully controlled. We look at the results of a recent study into BVD and go back to basics looking at how the disease is transmitted.

LAMBING

We focus on the factors limiting lamb growth and production





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James Major, Chisbury Lane Farm



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SPRING EDITION

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THE EDITOR

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

As spring is almost upon us we focus on lambing and maximising the growth of young lambs; with practical advice for those who are lambing in the FarmSkills pull-out guide and an article from Claire Riddell from XLVets practice Alnorthumbria Vet Group which takes us through some of the common problems and diseases associated with growing lambs.

As BVD eradication plans in Scotland get underway and the disease is back in the spotlight, we go back to basics with a feature that explains how the disease is transmitted within a herd and between farms and we discuss the extent of the problem in the UK. We also have a report from a recent study tour to Wisconsin, where a group of farm clients from Bishopton Veterinary Group had the opportunity to see first-hand several dairy herd expansion programmes on farms in the area and hear about their experiences in trying to achieve sustainable growth for the future.

We hope you enjoy this issue of 'Livestock Matters'

Joanne Dodgson **XLVets**

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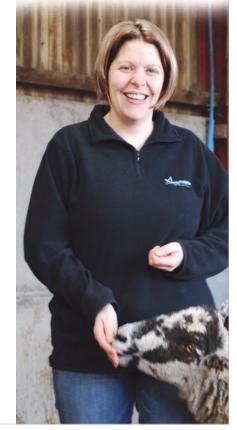
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Factors limiting lamb growth and production

Claire Riddell, Alnorthumbria Veterinary Group explains how disease encountered early on in the life of the lamb can have ramifications for future development.



Technology advances fatty acid control in Dairy Industry

The UK dairy industry must play its part in reducing saturated fats. 'With 25% of saturated fat in the diet derived from dairy products it is not surprising that our industry is attracting attention,' said National Milk Laboratories' director Ben Bartlett. 'We mustn't rest on our laurels but, instead, work together to gain a better understanding of the fatty acid profiles in milk and how we can influence these through genetics, cow nutrition and management.'

Speaking at the British Cattle Breeders Conference in Telford (January 25, 2012), Mr Bartlett announced two four-year projects about to start that will build up a database of fatty acid profiles in milk and lead to the development of tools to help the producers and their advisers manage fatty acid production.

The Optimir project involves NMR and SAC in the UK and 15 other organisations in four EU countries who will pool fatty acid profile data captured from the mid infra red (mIR) analysis of milk samples alongside phenotypic data. This will establish a common platform across Europe and allow the development of decision-making techniques relating to fertility, health, feeding and the environment.

The second project, 'Monitoring and improving the efficiency of healthy dairy products, farms and supply chains', is UK based and co-funded by the Technology Strategy Board. Again, NML will use mIR analysis to provide fatty acid profiles on both bulk milk and individual cow samples. Working with project participants SAC and Marks and Spencer, this data will be used to establish links with genetic and management factors. 'Both these projects use mid infra red technology - a technique that can establish fatty acid profiles at a fraction of the cost of gas chromatography and has made the large scale testing of milk samples possible,' said Mr Bartlett.

For the past two years NML has been routinely generating fatty acid profiles for 50,000 milk samples a month and identifying the groups of fatty acids, such as saturated fatty acids (SFA), in each sample.

'Whilst the data is not yet published, it is clear that there is a wide variation between herds. In November 2011 the overall industry average %SFA was approximately 69%, but at the extremes some herds had an SFA% less than 57% whilst others had a %SFA of more than 80%. The reasons for the range in SFA percentages are complex and varied, but the two primary drivers are feeding and breeding.'

Data also shows a wide range in %SFA within a herd too. Some cows can be seen to be producing more than 5.5% fat with SFA results below 60%, whilst others are showing much lower fat results with SFA's above 70%. 'There is a need to understand relationships instead, work can influence such as cow health and productivity against the fatty acid profile and groups of fatty acids such as saturated fatty acids,' added

Whilst fatty acid production is a complex business - a cow will produce about 1.2kg of 400 different dairy fatty acids from 600g of 10 different dietary fatty acids - there is evidence that cows that produce fat that is good for the human diet are healthier themselves. Certain UK feed companies are already using fatty acid profiling as a tool to assess the nutritional status of dairy herds.

Mr Bartlett.

'And genetics plays a major role. With the advent of genomics there is a real prospect that significant advances can be made in the genetic makeup of the UK dairy cow such that she will respond well to feeding strategies designed to change the fatty acid profile in the milk that she produces.

'Although the industry has a way to go, the implications for our dairy industry are huge with the prospect of feeding and breeding programmes that will improve cow health and also strengthen the nutritional value of milk within the human diet.'

Ram has CT Scan at Pride Park

Scarsdale Vets had an unusual case recently which utilised shared expertise between their farm animal team and their small animal referral hospital, Pride Veterinary Centre, to perform a CT scan and reconstructive surgery on a Ram (a real Ram at Pride Park!).

'Parker' the texel tup was found by his owner one afternoon in a very distressed state. His face was very swollen and covered in blood and he was struggling to breathe. He also had numerous gashes around his neck where he'd got himself stuck in some barbed wire. He was taken immediately to the Scarsdale Veterinary Group Farm Unit at Markeaton for emergency treatment by two of their farm vets, Abi Jackson and Chris Parker. On examination Parker was found to have multiple dog bite wounds on his face and nose and a big bloody hole over his right eye. This was later found to have been due to a canine tooth which had fractured his

skull. The dog had obviously had a good hold of Parker's nose and the force of its bite had managed to detach the roof of Parker's mouth from his gum, splitting it in half exposing his nasal cavity. It was touch and go as to whether Parker could survive and go on to perform his intended job of covering next year's ewes. The vomeronasal organ is extremely important in rams as it is involved in sniffing out ewe pheromones when she is in oestrus (yes humans have one too). The organ is situated in the sinuses of the ram within the nasal cavity. Without a CT scan it would be impossible to know whether this important structure was likely to have been damaged. After some deliberation it was decided that to give Parker the best outcome possible a CT scan of his skull and following reconstructive surgery would be necessary.

Parker had a general anaesthetic and CT scan, overseen by Tim Trevail, imaging

specialist, at the Pride Veterinary Centre which revealed fractures to his skull but no major damage to his sinuses. Damian Chase, a specialist soft tissue and orthopaedic surgeon more used to operating on dogs and cats, agreed to under take the complicated task of the reconstruction of Parker's mouth. Luckily, Damian is originally from New Zealand so is more than used to dealing with sheep. Parker still has a long way to go but he is recovering well at present, helped with portions of Ready Brek as he can't yet nibble at grass.



PART 1 OF A TWO PART SERIES

BVD CONTROL

Bovine Viral Diarrhoea (BVD) is one of the most significant production diseases affecting UK cattle. This is not only because of its direct impact on fertility but, through the suppression of immunity, it allows pneumonia and other infectious disease to gain hold. Moreover, it is extremely widespread. Knowing the disease status of your herd, bought-in stock, replacement heifers and even loaned bulls is essential if the disease is to be successfully controlled.

VD Control



According to MSD Animal Health's DairyCheck and BeefCheck subsidised bulk milk and blood testing schemes, 69% of dairy herds and 60% of beef herds have been exposed to BVD. These levels are worryingly high considering that BVD is a disease spread when levels of the virus are circulating in a herd, shed by either transiently infected or PI (Persistently Infected) animals.

The signs of BVD are hard to spot which can mean they go unnoticed and are even seen as 'normal' for that herd. Unchecked and unseen, this disease can lead to significant economic losses. BVD causes most damage when it infects pregnant cows. Foetal death, mummification of the foetus and abortions are possibilities at any stage but if infection occurs at between 40-120 days into the pregnancy, a Pl calf can be born. A Pl will be born alive, often seemingly healthy, but will excrete virus into the environment at all times, acting as a source of infection to other cattle before dying months or years later. To prevent the birth of Pls, vaccination of breeding cattle with a suitable vaccine would be recommended to prevent the birth of PI calves. Your XLVets practice will be able to provide further advice on vaccination regimes.

Results from a research study undertaken by a student at the Royal Veterinary College¹ and presented at a veterinary conference revealed some worrying lapses in BVD vaccine use on-farm.



The study was carried out on 71 farms, split between beef and dairy and found that:

- 21% of farmers vaccinated using the incorrect dose of vaccine.
- A similar number administered vaccine via the incorrect route of administration.
- While all farmers gave a two-course primary course, nearly 50% had the wrong amount of time between dose 1 and dose 2.
- Critically, vaccine should be given four weeks before service to ensure that the unborn calf is protected, yet just 24% of respondents managed to do this.

BVD CONTROL

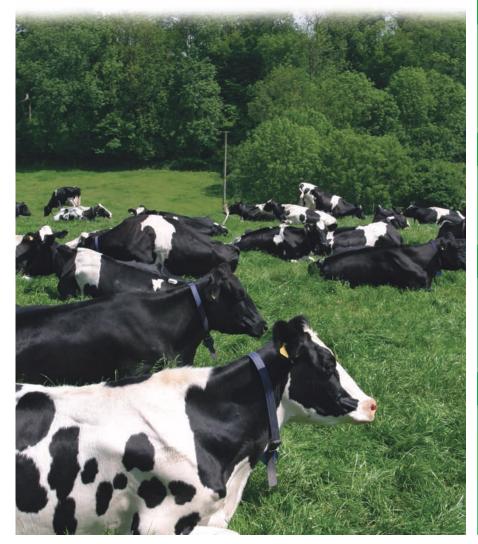
Some other findings from the study are also of interest. For example, 23% of farms did not know their BVD status; in Scotland by 1st February 2013, this will no longer be the case, but English and Welsh producers currently have no required screening process.

Poor biosecurity, especially when it comes to buying in stock is a very real disease risk. It is recommended that producers should always know the BVD status of stock coming onto a unit, especially in-calf animals, and if vaccinated, this includes knowing when they were vaccinated because animals vaccinated after service, could still be carrying an infected foetus. In the study, only 28% reported knowing the BVD status of bought-in animals and very few purchasers insisted that stock were vaccinated prior to coming onto their own unit.

It was also interesting to note that the health of the animals at the time of vaccination was seldom taken into account. A sick or immune-compromised animal will not be able to respond well to a vaccine. It is worrying then that there seemed few incidences of illness being given as a reason not to vaccinate.

Vaccines are sensitive and should always be stored and handled correctly. They need to be refrigerated and in the case of BVD, an opened vial should be used within 10 hours - in the study, around 34% of farmers kept such a bottle for more than a month.

It is hard to fit all the treatments in at the right time but some time spent planning when and how to administer BVD vaccine primary courses or boosters is time well spent. Looking specifically at the timing of vaccine administration is important. Bovilis BVD, which is unique in that it is licensed to prevent transplacental (mother to unborn calf) transmission of the virus can be given four weeks prior to gestation to prevent the birth of a PI calf.



¹ Meadows, D., Cattle Practice 2010 vol 18 part 3

XLVets would like to thank MSD for their support with this article.

5 STEPS to BVD control:

STEP 1

<u>S</u>TATUS

Assess the BVD status of your herd, to see if your herd has active BVD infection; via milk sampling for dairy herds and blood sampling for beef herds/youngstock. Evaluate the problem and assess herd performance e.g health, fertility etc.

STEP 2

TEST

If active infection is revealed, blood sample or ear tag tissue testing is required to identify Pls.

STEP 3

<u>E</u>LIMINATE

Identify and remove PIs via culling.

STEP 4

PROTECT

Select a vaccine and administer at the right time.

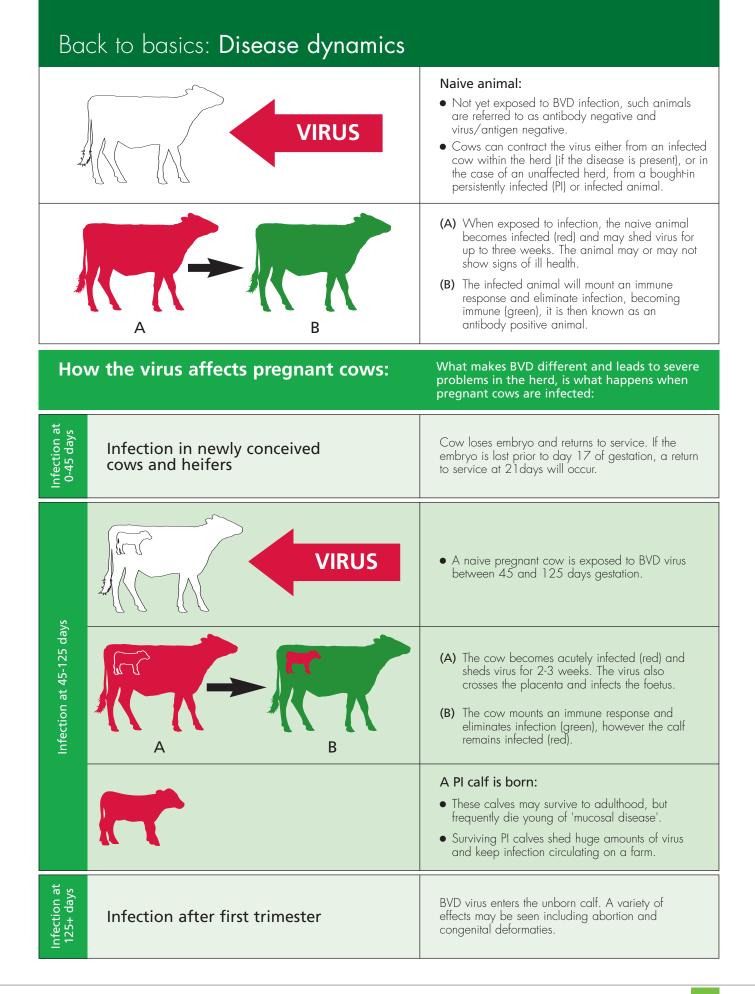
STEP 5

SURVEILLANCE

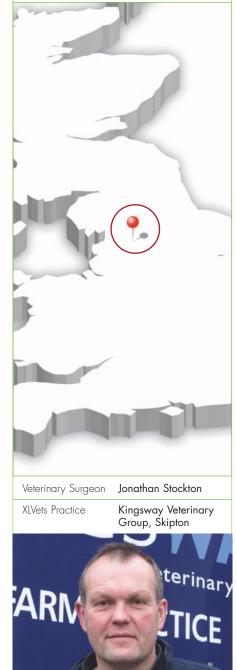
Continue to monitor, test annually and vaccinate as advised by your vet. Buy cattle from a CHeCS approved health scheme or quarantine and test all added stock for virus.

In the Summer issue of Livestock Matters we will look at further studies into BVD that are currently being undertaken by XLVet member practices.

BVD CONTROL







JONATHAN STOCKTON, KINGSWAY VETERINARY GROUP

A 'downer cow' is defined as a cow which remains in sternal recumbency - i.e. sitting up on its brisket with legs tucked underneath - for unknown reasons. This is a situation which typically occurs around calving time after a difficult calving or due to milk fever.

The assessment and treatment of downer cows...

There are a number of different reasons why this may occur, as Jonathan Stockton of Kingsway Vets explains: 'There's a long list of possible causes for why a cow can go down, broadly they fall into four main types: trauma, metabolic disease, neurological problems and toxic infections'.

The causes of downer cow syndrome

- Trauma femoral neck fracture, hip dislocation, rupture of the Achilles tendon (Gastrocnemius muscle above the hock), pelvic fracture, anaemia due to blood loss
- Metabolic disease ketosis (beef sucklers), unresponsive milk fever
- 3. Neurological problems calving paralysis, peroneal and sciatic nerve paralysis
- Toxic infections septic metritis, acute E.coli mastitis



This heifer fell coming out of the parlour, 6 weeks after calving. She was moved into a box and examined by Jonathan Stockton, who discovered a fractured femoral neck, and so she was slaughtered on-farm.

What to do

'Cows which are found down on concrete or in cubicles should be moved immediately if secondary traumatic injury is to be avoided,' advises Jonathan. 'Significant damage to the muscles of the hindquarters and sciatic nerve can occur within six hours, so it's important to act promptly.

'Cows should be moved into a box with a deep bedding of straw, sand or sawdust, or out to grass if it's appropriate. The 'bedding up' around cows that have gone down on a concrete yard or in cubicles, is futile. Once the animal has been moved and bedded up in a better location, it is worth taking the time to assess the symmetry of the hindquarters and to flex and extend the hind limbs to check for fractures or dislocations. If in doubt, the vet should be called.

'Under current legislation cows may be presented for post-mortem meat inspection, (ante-mortem inspection, shoot and bleed on farm), following an accidental injury. So prompt diagnosis of fractures may allow the animal to be slaughtered on farm, and prevent unnecessary suffering, whilst achieving some financial recompense. The outcome for a downer cow is often determined by the ability and commitment of those nursing the cow,' says Jonathan 'However, a lot of unrewarding and unnecessary work can be avoided by choosing which cows to nurse.'

Poor candidates for nursing success are those cows which:

- Have done the splits, and have one or both hind legs nearly at right angles to the body.
- Have their hind legs extended behind them, or have both their hind feet touching their elbows.
- Have been down on concrete for an extended period.
- Only attempt to rise using their forelimbs, or don't attempt to rise at all.
- Have had a calf stuck part way out for a long period of time.
- Want to lie on their side, despite propping with bales or machinery.

Caring for the downer cow

'For cases where treatment is the preferred option, the quality of the nursing often determines the outcome,' warns Jonathan Stockton.

These cows require a lot of care. Just providing clean water and feed can be challenging if other cows are present in the pen or if the cow becomes a 'creeper' and constantly moves away from it. Good quality forage should be presented along with small amounts of concentrate or straights. The bedding should be deep enough to prevent the cow scratching it away down to concrete, and needs to be kept fresh to minimise the risk of toxic mastitis.

'Post-calving cows need to be milked twice daily; this can be achieved by lifting or by laying the cow flat out in lateral recumbency i.e. on her side. The cow should be moved or turned approximately every 3-4 hours so that she is not continually lying on one leg. Also, the leg that the cow is left to lie on through the night should be alternated. Ideally, the cow should be turned at least once during the night.

'If the cow is making efforts to rise it can be difficult to ensure that the underneath leg is alternated but due to the movement of the cow, this becomes less crucial.

'It is good practice to hobble cows which have done the splits, ideally using webbing and chain to prevent further injury whilst attempting to rise. It is also beneficial to lift the cow and to manipulate the legs to stimulate blood flow and to relieve the pressure on the legs. Whilst performing this, the tone of the legs can be assessed, as little or no resistance suggests a worsening of the condition.

'Each day, the cow should be examined for the presence of any fracture or dislocation, as these often occur as the cow struggles to rise. A regular assessment should also be made of the cow's demeanour to determine any deterioration, so that euthanasia can be carried out promptly if the chance of a positive outcome is diminishing.

Initial assessment is key

'The decision regarding whether to treat and nurse a downer cow, or not, can be a difficult one. It's essential that the cow is examined thoroughly at the start, to avoid unrewarding nursing input, and unnecessary suffering and treatment costs.

'If the decision is made to treat the cow, and she is not up in 24hrs, she should be examined by a vet. If, after four days, the cow still remains down, she should be re-assessed by the vet, to determine whether she is just making slow progress or whether her condition is actually deteriorating.'

Case Study: Manor House Farm

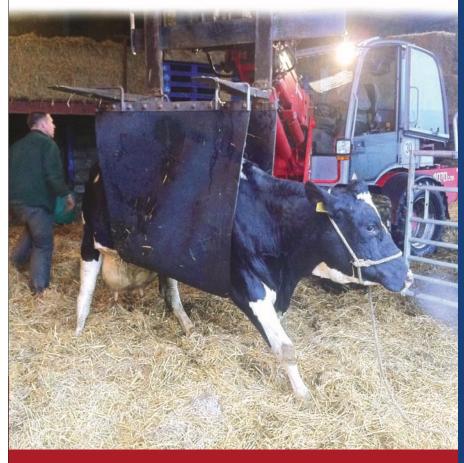
Lifting and moving

The lifting and moving of downer cows is achieved on different farms in various ways. Methods include using feed buckets, nets, and hip clamps (Bagshaw hoist).

At Manor House Farm near Skipton, dairy farmer Jonathan Caygill has invented his own system for lifting downer animals: 'Since we only get $\pounds 250$ for an emergency slaughter, or have to pay $\pounds 70$ to incinerate a cow, yet an animal can be worth $\pounds 1,500$ to $\pounds 2,000$, then it's well worth the effort to help make them stand again,' he says. 'But I wanted to find a 'more humane' system of lifting cows than some of the equipment on the market.'



So Jonathan has devised the Easy Cow Lift. It consists of a mat made of recycled rubber, which is placed underneath the fallen cow, and then lifted up by its galvanised steel handles using pallet forks, to move the animal and/or help them resume a standing position. 'It's simple to use, has minimised stress for both me and my cows, and also increased their survival rate.'



Using the Easy Cow Lift has led to an increase in survival rates of downer cows at Manor House Farm.

For further information on the Easy Cow Lift visit; www.easycowlift.com





Veterinary Surgeon XLVets Practice Claire Riddell Alnorthumbria Veterinary Group



CLAIRE RIDDELL

Ewes provide lambs with some immunity to a range of diseases they may encounter early in life through colostrum. However, diseases encountered early on in the life of the lamb can have ramifications for future development.

Factors limiting lamb growth and production

Whilst scanning and lambing percentages are parameters that are often referred to early in the flock year, just as important to profitability are later losses and the growth rates that lambs achieve.





Electronic tagging and weighing systems allow daily liveweight gains to be easily appreciated and subtler losses in production targets are more readily identified. Daily liveweight gains in lambs born to terminal sires should be approximately 250g-300g/day pre weaning and 150g/day post weaning. Roughly a quarter to one third of lambs should be finished by weaning. If you are not hitting these targets then involve your vet as money is being lost.

Lamb growth rates are down to three main factors: genetics, nutrition and disease. Genetics are important and set the potential. High EBV rams have been shown in lots of trials to leave lambs which grow faster and grade better than 'farmer' choices.

Whilst an obvious factor in lamb growth, nutrition is often overlooked in favour of more obscure causes. Lambs should be given preferential nutrition on a sheep unit to ensure targets are met. Whilst numerous systems are available, the same principle applies - energy and protein quality and quantity needs to be sufficient to sustain their daily needs and also growth. In addition, the food supplied should be available in a form that they are able to easily utilise; lambs need an energy dense diet hence a sward that has been allowed to get too long will not grow lambs to their potential. Production limiting disease in lambs is common. The most frequently seen conditions associated with poor growth rate include:

- Gut worms
- Coccidiosis
- Selenium deficiency
- Cobalt deficiency
- Lameness
- Ectoparasites (scab, lice and fly strike)
- Chronic cases of joint ill etc
- Clostridial diseases



Gut worms

Whilst gut worms (parasitic gastroenteritis) are one of the most significant influences on sheep production, current strategies of worm control make up a whole article in their own right. Young lambs have no immunity to worms, and increased worm egg production in ewes around lambing makes them more susceptible to disease. Unlike adult sheep, lambs are also susceptible to Nematodirus battus worms.

The appropriate timing and choice of wormer is essential to control emerging resistance and disease. Each farm should have a plan tailored to its own needs.



Ectoparasites

Fly strike in spring and summer months can be massively debilitating to young lambs. Severe infestations can cause death and milder cases varying degrees of growth disruption. Selecting products to protect the lambs before the threat from flies occurs is important, as is making sure the duration of action is long enough. If lambs are close to finishing, products with a shorter duration of action and meat withdrawal may be more appropriate.

As well as the direct debilitation of skin disease caused by **scab mites and lice**, the itching behaviour disrupts feeding patterns and reduces feed intake. It is important that scab and lice infestations are differentiated between as the treatment for each is different.

Coccidiosis

Coccidiosis is another parasite which has major impact on lamb growth by destroying the gut lining so the lamb cannot absorb nutrients. Infections are seen most often in intensive systems in lambs between 3-8 weeks, although older lambs may also be affected on heavily contaminated paddocks. It can cause sudden death as well as dull, tucked-up lambs with diarrhoea and dehydration. Lambs which survive can have reduced growth rates for weeks afterwards. If lambs are only exposed to a low grade level of cocci they will develop a good immunity. Monitor by regular FEC in conjunction with signs as some cocci lay eggs but cause no disease.

Selenium and Cobalt deficiencies

Both selenium and cobalt deficiencies are common causes of ill-thrift in growing lambs. These can be diagnosed by group blood sampling. Deficiencies can be corrected by appropriate supplementation. Indiscriminate mineral and trace element supplementation is at best wasteful, and at worst dangerous over supplementation can cause further complications - such as death seen in Texel-type lambs provided with too much copper. It is important the correct trace element is given and the right method of administration is employed. Ad-lib minerals are best avoided as you cannot guarantee each animal will receive adequate levels. Drenches, injections and boluses are available in a huge number of combinations with varying lengths of action - speak to your vet about the most appropriate product for your lambs.

Clostridial diseases

Ewes provide lambs with some immunity to a range of diseases they may encounter early in life through colostrum. Ewes should have received vaccination against the common clostridial diseases pre-lambing to protect the lambs from conditions like **pulpy kidney**. Pulpy kidney is commonly seen in growing lambs between one to two months, and usually affects the 'best' lambs in the group. Cases are seen as sudden deaths, and those lambs found alive invariably die due to massive toxin overload.



Lameness is a major health issue for all ages of sheep. If your flock has a lameness incidence of over 4% it is a problem that needs further investigation. Lambs afflicted with scald, footrot or CODD (contagious ovine digital dermatitis) will not thrive as well as their contemporaries due to debilitation and disrupted feeding. Lameness will prevent lamb sales through the mart and can also prevent their transport to slaughter. It is therefore essential that an effective plan is in place for dealing with lameness issues. If greater than one in 25 sheep is lame then your current plan needs changing.

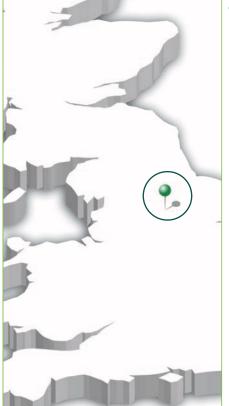




Diseases encountered early on in the life of the lamb can have ramifications for future development. Joint ill can result in irreversible joint damage and hinder subsequent growth. Navel ills and abdominal infections can result in a variety of problems including liver damage and sudden deaths.

While lamb prices are good at the moment you should be striving to increase your flock performance (growth rate). Failure to do so will have long term consequences for your flock's potential and its future profitability.





 Veterinary Surgeon
 Phil Alcock

 XLVets Practice
 Bishopton Veterinary Group



PHIL ALCOCK, BISHOPTON VETERINARY GROUP

Why do some farmers make a great success of dairy herd expansion while others hit the buffers working harder, with more money invested yet feeling under more pressure and making less profit? With a number of our clients facing this challenge we put together a study tour to visit Wisconsin USA with support from LandSkills.

Wisconsin study tour

We chose Wisconsn because of the density of farms that had been through this process. Our aim was to see what common factors lay behind sustainable growth on these farms, learning about their successes and failures.

We toured nine great farms ranging in size from 300 to 2,900 cows as well as squeezing in a visit at the Wisconsin veterinary school.

What were the features that stood out?

• Staff structure

There was no ambiguity about the roles and responsibilities of everyone working on these farms. It would be impossible for the herd owners to micro-manage the staff so instead herdsmen fulfilled middle manager roles where they had responsibility for outcomes monitored by the boss. This clarity meant accountability. Clear job definitions also reduced stress on employees who knew exactly what was expected of them rather than having to cope with fluctuating or vague demands and avoided the scenario where when everyone is responsible sometimes no-one is.

Cow comfort

Deep sand cubicles were a common factor on most of the herds we visited. The general opinion of the farmers who had made the change to sand was that their cows were longer-lived; this altered the nature of culling in their herds away from culling lame and casualty cows towards culling for mastitis, fertility and yield.



This resulted in herds running at lower days in milk with big mature cows reaching their full potential. Cow cleanliness was striking as were the effects on udder health, a 2,500 cow herd that we visited had only two cows out of the tank with mastitis on the day of our visit. Whether cows will give more milk on sand beds is debatable and probably depends on what the limiting factor is in any given herd. In well designed mattress housing, factors such as nutrition and genetics are more likely to limit production in the UK. There were good herds achieving outstanding results on mattress based systems, but they had to work very hard to maintain cow comfort compared with the sand herds.





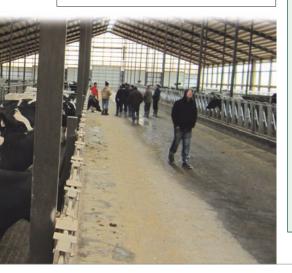
• Attention to detail

As these farms had expanded, the attention to detail had not been lost. In some cases it may even have been enhanced as people could be given more focused jobs developing a degree of specialisation. Forage management, hygiene and consistency in all daily tasks were a common factor. As the herds had grown they had taken control of every important detail.



UK vs. USA

I finished the tour very encouraged that the best of our dairy industry is just as advanced and talented as that in Wisconsin. Our group certainly took the chance to review the platform that they have for further growth and what the limiting factors on herd performance might be. The yields achieved by many of the farms we visited were impressive; over 50 litres per cow per day on one farm. The temptation might be to explain this as the result of the exceptional forage base, feeds like bloodmeal and additives/ treatments such as Monensin/BST and doubtless all these things are part of the story. More important though were the common factors of exceptional attention to detail, a focus on cow comfort and a robust staff structure where everyone knew their role.



Case Study: Larson Acres

THE FACTS

Herd size: 2,900 cows

Staff: 11 family and 42 employees

Average yield: 30,000lb +

This business has expanded from 1,000 cows - completed in 2010 to include a new mechanically cross ventilated 234 x 1,166 feet dry cow and transition barn on sand cubicles for 1,200 cows with a second 44 point rapid exit milking parlour.

The cross-vented barn system involves a sealed unit with extraction fans running along the whole length of one side of the building. To ensure adequate movement of air, relatively small inlets are made along the far side of the building to move air at 400ft per minute, which equates to 60 air changes per hour in the summer. Temperatures commonly reach 40°C in the summer and the main aim of investing in such an expensive ventilation system is to avoid heat stress.



While we never see the same extremes of temperature in Yorkshire, cows housed inside during the summer are still at risk. Dairy cows are affected by heat stress at lower levels of heat or humidity than those that would begin to bother humans. Cross-venting was an extreme solution but more attention to achieving fresh air in our buildings was one message we took from our trip.

Larson Acres had also invested a huge amount of capital in their slurry handling system which comprised a three-stage separation system - sand laden slurry from cows passes through housed separation lanes and drum filters to produce sand which is drained and re-used, and solids (fibrous, high phosphate, 40 t/day, stored up to one month); the sludge from this process passes into a screw press producing a liquid used directly on alfalfa crops between silage cuts or passes into a membrane filter to produce liquid permeate (1% dry matter, contains half the initial nitrogen level and no P or K, used for growing crop application. This system



allows a precision nutrient management plan to be implemented with P & K added back as required by each crop.

Whether the amount of capital invested at Larson Acres is the right business approach or not, this farm believed strongly in taking a lead on promoting the positive impact of dairy farming and its sustainability in terms of animal health, environmental impact and place in the community.

In common with the majority of the farms we visited they had converted to sand cubicles. The downside is handling the slurry and the farms we visited had employed a range of methods to overcome these problems. The bigger farms were recycling sand which represented a huge saving as very little additional sand needed to be purchased per annum. Mechanical separation was the most expensive option and technical issues on some farms resulted in sand of questionable cleanliness. Flume and separation lanes were impressive and produced very clean sand from a very grand but ultimately simple system.

Key Points:

- Step back and define your business and the roles within it - even if you currently fulfil most of them yourself at the moment!
- Clear role definition can be the difference between stressed, under-performing staff and a solid team which is easier to manage and recruit into.
- Produce good protocols and enforce them through a clear staff structure.
- Excellent results can be achieved on all systems but sand probably delivers the best results at a given level of management.
- If you want to progress identify your own limiting factor.
- Think about how we are perceived by our customers and what our role in our communities is or should be, this could be more and more important in the future.

Kindly supported by Landskills in Yorkshire and Humber

LAMENESS



Healthy Feet Tackling lameness at its heart

DairyCo successfully launched its new Healthy Feet Programme in September 2011. Designed to tackle lameness at the heart of its cause and consistently reduce incidence, the programme involves trained professionals working closely with farmers so they learn how to manage the problem themselves. Kate Cross, DairyCo product manager explains.

Depending upon the specific problem and its severity, lameness is likely to have a large impact on a cow's performance in terms of yield, fertility and longevity. A conservative estimate of the average cost of an incidence of lameness, in terms of treatment costs, loss of yield and potential for shortened productive life of the cow may be in the region of £180; at current levels of incidence (up to a quarter of a herd lame at any one time) this could equate to a financial loss of nearly £15,000 for an average-sized herd.

Lameness can also lead to other herd health problems, and on top of the problem for the cows themselves, the ongoing challenge of tackling lameness can affect staff morale on the farm, and this in itself is an issue which needs to be addressed.

Studies into the incidence of cow mobility problems have suggested that the wide range of lameness incidence is primarily due to differences in herd husbandry and management. This strongly suggests that dairy cow mobility can be significantly improved through changes to herd management. A high level of lameness is not a problem which has to be accepted as part of modern dairy farming, even if lameness cannot be eliminated entirely.

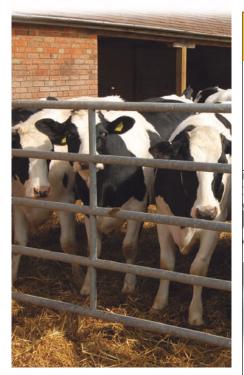
The DairyCo Healthy Feet Programme (DHFP) builds on the widely respected work of the Healthy Feet project, supported by the Tubney Charitable Trust and carried out at Bristol University Vet School. It has been developed with vets in practice and foot trimmers, as well as local and international lameness experts.

The programme corresponds with the DairyCo Mastitis Control Plan, working in a similar way to identify the cause of problems then ways to tackle these with the help of a trained advisor. We're also taking on board learning from the Mastitis Control Plan, and a central part of the programme is now to ensure that both farmers and farm staff are involved in learning to identify and treat some of the causes of lameness.

The programme places emphasis on the farmer and farm staff working with a trained 'mobility mentor', a vet or foot trimmer who has attended a training workshop, and understands the steps and approaches of the programme.

There's much more farmers can be doing than just knowing when to footbath and hoof trim. Working with a mentor to identify and tackle the causes of lameness means they have the support they need to get their staff using the right approach to get on top of the problem and stay there.







Vet Training:





Andrew Maxwell, of XLVets Farm First Vets in Abergavenny attended one of the first DairyCo mentor training workshops in 2011.

'I had an interest in lameness and as no-one else in the practice had done the Healthy Feet mentor training I thought it would be a good opportunity to get more focused and to have someone in the practice who specialised in the subject.

The mentor training was well run and I felt very well prepared for going on-farm to introduce the programme.

'I've worked through the first three stages of the programme with one farmer. Part three was completed just before Christmas and I'll be returning for another visit shortly. I've also just started the programme with another client.

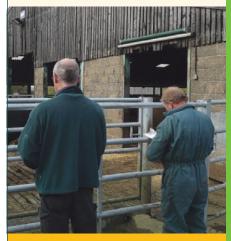
'I've been impressed by the farmers - they know a lot more about the types of foot problems that arise and the potential solutions, so that's very encouraging for the industry.'

How the DairyCo Healthy Feet Programme works for the farmer:

Independent mobility score

Step one: Training, skills review and diagnosis

The mobility mentor visits the farm and carries out an assessment of a proportion of cows' feet. Different diseases and how they arise are discussed and the foot-trimming process reviewed.



Step two: Full farm risk assessment

The mentor visits the farm to carry out a thorough risk assessment of the farm and management with respect to lameness going everywhere the cows go.

Step three: Action plan

The mentor is now in a position to help the farm team understand where the critical points on the farm are in relation to lameness. Solutions are discussed and action points agreed.

Step four: Recording, monitoring, reviewing

An action plan in itself will not reduce lameness. The farm team will use appropriate recording of all lame cows and lesion types found during routine foot checks. Mentors will ensure that the herd is mobility scored (ideally independently) on a three monthly basis to measure progress. The review phase is probably the most important step for encouraging effective changes to take place.

FARMSKILLS



Sophie Throup FarmSkills Manager

FarmSkills GROWING FARM BUSINESS SUCCESS

With the sheep industry going through a mixed time, where better prices are set against the threat of a new virus in Schmallenberg, farmers are continuing to look at training for additional support. Practical FarmSkills workshops in topics such as lambing, sheep nutrition, lameness controls, foot trimming, ewe fertility and sheep parasite controls are all vital skills to help improve business outcomes and engage with qualified veterinary trainers.

XLVet Training Services Ltd

This season at **FarmSkills**, we have run our highest ever number of lambing workshops and by the end of March will have trained more than 165 farmers in how to successfully lamb sheep, control common problems and improve results.

All our workshops are highly practical in nature and are delivered to small groups of 6-8 farmers, by vets who have had their training styles approved by FarmSkills LANTRA Instructional Techniques programme.

The courses have run the length and breadth of the country, from the Orkney Isles and Aberdeen, to Kendal, Ripon, Derby, Shrewsbury, Swindon, Gloucester and Devon.

NorthVet, Orkney Isles - lambing course



One fifth of the lambing courses we are running, will have taken place in the South West, where workshops are supported by Duchy College's Rural Business School's Healthy Livestock and Skills projects as part of the Rural Development Programme for England, funded by DEFRA and the European Union. Bryony Kendall from Tyndale Vets in Gloucester ran a lambing course on 1 February for 12 delegates and updates us on how things have gone:

FARMSKILLS SOUTH WEST

Bryony Kendall, Tyndale Vets

Our FarmSkills lambing course was divided into three main sections of learning: before, during and after lambing - all equally important in the health and survival of both the ewe and newborn lamb.

The delegates learned how preparation for lambing really starts before the tupping season, ensuring that ewes have functioning udders and are free from chronic mastitis so they can feed their lambs adequately when they arrive. The delegates also learned that key steps such as making sure the ewe has enough to eat and that clostridial vaccinations to protect the ewe - and the newborn lamb - are administered as required are further key steps in the process. We also discussed the importance of hygiene and how to make sure that the environment is carefully prepared before the lambing season, so newborn lambs have adequate shelter whether indoors or outside - and that clean water and feed are readily available. Spotting common problems with the ewe before lambing, such as pregnancy toxaemia and prolapses was also an interesting topic of discussion.

Although nature should take its course when lambing occurs, inevitably problems will arise, and so with the help of illustrations and our two lambing simulators, we went through how to recognise the difference between fore and hind legs in the womb, how to correct mal-presentations and ensure the lamb is laid correctly to aid a smooth delivery. We also discussed disease controls and the importance of colostrums for the newborn lamb.

The delegates had a full day - and hopefully left having improved their skills and raised their confidence for their lambing season ahead.



Find out more...

If you would like to book on to a course with us, please call the FarmSkills office on:

01765 608489

or email us at: farmskills@xlvets,co.uk

FarmSkills, Mill Farm, Studley Road, Ripon HG4 2QR

PRACTICAL GUIDE





OULL OUT & KEEP

PREPARING FOR LAMBING



An ABC guide for the lambing season

Why not try the following ABC approach to remind you of key things to look out for during

A. ARRIVALS

the lambing season:

Hygiene, and individual lambing facilities (pens) will provide a safe environment for the lambs to bond with their mother. Clean straw, gloves, gel and lambing ropes are essential equipment for all to have.

B. BREATHING

Check that no placenta is covering the nostrils and mouth. In the majority of cases a gentle rub on the chest, or flicking the inside of the nostril with a piece of straw will suffice. In others the administration of a 'stimulant' either by injection or sublingual route will be required.

C. COLOSTRUM

The life saver to all newborns, colostrum is as vital to lambs as to any other animals; with a target of 10% of bodyweight being given in the first 6-8 hours of life. Particularly with an assisted lambing a few extra seconds to strip the teats, removing the keratin plug and ensuring the quarters are free from mastitis will identify any potential problems at source. The availability of artificial colostrum will ensure that colostrum is available 24 hours a day. Where colostrum is of insufficient quality beware of E.coli infections and implement preventative treatment with oral antibiotics if required.

D. DISINFECTION

The navel of a newborn lamb is a common source of infection. Routine spraying of the navel with iodine is a simple cost-effective treatment, carried out as soon after birth as possible.

E. VITAMIN E / SELENIUM

Where lambs are born into a flock that has a Vitamin E / Selenium deficiency an injection is recommended. Always read the bottle for injection route and use the neck and not the muscle of the hindquarters as the injection site.

F. FOSTERING

For a number of reasons, a lamb may need to be fostered. Ideally this should occur as soon as possible, before the lamb has been licked by the mother. When fostering from triplets select the strongest lamb and keep the lamb and adopting ewe individually penned until you are sure the adoption has succeeded.



G. GOOD PRACTICE

Management procedures such as detailing and castration are best dealt with early in life with the administration of 'rubber rings' being the preferred method with minimised risks to the lamb. Vaccinations if required for orf are implemented at an early stage (avoid shedding of 'orf' in areas of unvaccinated animals if possible) and protocols are in place to identify nature of scour e.g. E.coli, coccidiosis or nematodirus and relevant treatments are implemented.

H. HYPOTHERMIA

Smaller lambs and those neglected by the ewe are most vulnerable to 'hypothermia'. The smaller lambs will have a greater surface area to their body weight ratio and therefore chill faster. Normally fat reserves in the lamb are converted by oxygen into heat, but as these are limited it is critical that over the first few days the lambs suckles regularly and has a steady supply of milk.

The normal rectal temperature of a lamb should be 39-40°C. In mild cases of hypothermia where the temperature falls to between 37 and 39°C, the administration of colostrum via a stomach tube is often sufficient to stimulate heat production. Where the temperature falls to less than 37°C or where the lamb is small (<1.5kg), hypoglycaemia (low blood glucose) will contribute to the hypothermia. There is a need to reverse the hypoglycaemia and warm the lamb.

Reversal of hypoglycaemia is done by administration of a 20% dextrose solution at a rate of 10ml/kg bodyweight into the abdominal cavity (intra peritoneally) The injection site being 2cm below the navel and 2cm to the side. It is best if the solution is administered at body temperature.

Where warming is required it is better to do this slowly, preferably with a warm air heater as opposed to a severe heat lamp. Checking the lamb's rectal temperature every 20-30 minutes ensures that its temperature doesn't exceed the normal and result in the lamb overheating. Once temperature returns to normal levels and the lamb is strong enough to suckle, it is best returned to its mother as soon as possible and supervised for 24-48 hours to ensure the ewe accepts the lamb back.

I. INVESTIGATION/INFORMATION

The final piece to the jigsaw is information:

- Why are there weak lambs born?
- Why do 20 per cent of the 'scanned lambs' never reach selling?

Investigations following lambing will not increase the lambs sold this year, but for the price of one or two lambs, a few simple investigations through blood sampling and postmortems will leave it easier for your veterinary practice to develop a 'living health plan' to allow clients to maximise their percentage lambs sold for years to come.



FarmSkills

Mill Farm, Studley Road, Ripon, Yorkshire HG4 2QR T: (01765) 608489 E: farmskills@xlvets.co.uk www.farm-skills.co.uk

If you are interested in finding out more about lambing, why not talk to your local XLVets practice, or call the FarmSkills office to book on to one of our lambing courses near you.

Concerned about cell counts?

Too much mastitis?

Clover Cell Check is an efficient, cost effective monthly service that helps farmers monitor milk quality.

- Early prompt to prevent problems developing
- Better herd performance through specific advice
- Simple, easy actions for a few cows every month
- Compares your farm to others to show strengths and weaknesses

Call your local XLVets veterinary practice for more information or visit **www.clovergroup.eu**



Time to protect valuable stock from Lungworm...

Traditionally, the time to start considering husk (lungworm) prevention is just before turnout. Given that lungworm still remains a constant threat year on year, and turnout will be starting in some parts of the country soon, planning how best to protect stock from the continued threat of lungworm will pay dividends as the season progresses. Although outbreaks are seen mainly in late Summer and Autumn (see graph below), early planning is the key to prevention.

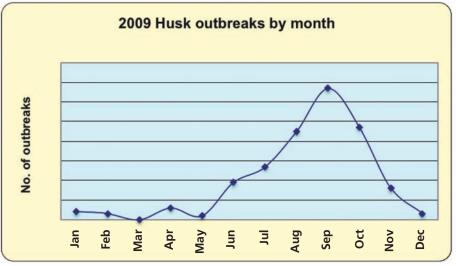
Historically, lungworm problems have been most commonly associated with youngstock, but now almost 75% of reported cases are in adult animals, which could have a very significant impact on the profitability of a herd.



lain Richards from the Westmorland Veterinary Group based in Kendal believes the re-emergence of husk as a disease in recent years is largely down to a reduction in vaccination and changes in modern worming practices.

'When I first qualified 20 years ago you just didn't see husk problems in cattle, largely because vaccination was much more prevalent. But around 10 years ago we started to see it appearing again and it can only be because current lungworm control regimes are not working well enough. If all you are going to use to worm your cattle is a long-acting wormer with no immunity development opportunities, it could easily compromise your lungworm control,' he warns.

Westmorland Veterinary Group takes an active interest in parasitology within the practice. 'We need to start taking a similar approach with cattle as we do with sheep under the SCOPS regime, and try not to worm unless you have to. Recently, we've got quite adept at finding evidence of lungworm infections in cattle. The test is a little fiddly, but quite straightforward, and we can have a result overnight. And showing evidence



of the presence of lungworms does help to convince farmers to implement a vaccination regime,' lain says.

lain maintains that planning lungworm control strategies prior to a heifer's first grazing season makes sense and doing so can avoid the all-too-common scenario where an infestation does occur later in the season and treatment has to be given.

'As well as being costly, lung damage will often have already occurred, leading to the typical signs we see in infected animals. In youngstock the main effect is a depression in growth rates, leading to a longer finishing period or time to first service. In older cattle the disease can depress milk yields and depress fertility.'

Husk occurs as a result of infection with the lungworm Dictyocaulus viviparus. Cattle develop it after eating grass contaminated with infective larvae. Once in the gut, the larvae migrate through its wall and a few weeks later reach the lungs where they begin laying eggs. A spell of mild, wet weather can create a sudden, dramatic increase in lungworm populations, which can be very harmful, even fatal, to any stock that have little or no immunity.

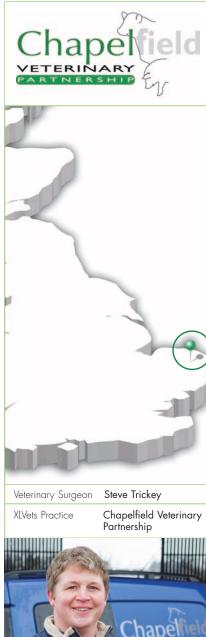
'Even where prevention is the goal, relying on wormers alone doesn't allow the animal to

develop its own natural immunity,' lain Richards says. 'Ideally, at the start of the season you should sit down with your vet and plan your herd worming strategy, but controlling husk should be the number one priority. Vaccination with a pre-turnout course of Bovilis Huskvac® is the most reliable way of ensuring the development of immunity to lungworm. When you consider how much is invested in cattle genetics, and the value of 24-30 month old heifers, in particular, it makes no sense at all not to vaccinate against lungworm when the vaccine is such an effective product.'

Bovilis Huskvac is a live vaccine, made from irradiated larvae, which are incapable of causing disease. For dairy calves, vaccination should be completed at least two weeks before the calves are turned out to grass, for suckled calves it should finish two weeks before the calves begin to eat significant amounts of grass. Sustained-release wormers such as boluses should not be given until two weeks after the final dose of vaccine.

The vaccine produces a very good immune response against disease but it does not prevent all worms from natural infections completing their life cycle. This allows for the continued development of natural immunity, which often fails to occur where there is an over-reliance on wormers.

CASE STUDY





Steve Trickey of the Chapelfield Veterinary Partnership based in East Anglia saw first hand recently just how costly an outbreak of lungworm can be for a dairy unit rearing its own replacement youngstock.

Between August and December last year a sudden outbreak in a group of 70 pre-calving heifers on one client's farm ultimately led to the loss of five valued animals, he recalls.

'Around August, the farmer noticed some coughing in autumn calving heifers on rented grass and was a bit suspicious something was wrong because weight gains were generally down a bit. But it was only when these animals calved down that we were able to give him a definitive lungworm diagnosis. He treated these earlier calving animals with a wormer and he reported that this seemed to help the situation.

'However, by December some of the later calving heifers were also not as big as he would have liked and around calving they also started coughing. Because of their poor condition there were also more problems post-calving, such as metritis and pneumonia, due to a lowered immunity. And he lost five of them,' Steve Trickey says.

'The farmer has told me that it was a devastating loss and not something he wants to go through again, so will definitely be vaccinating against lungworm this year.

'He now recognises that his worming policy was a little haphazard previously. These heifers obviously picked up the lungworms on the marsh pasture they were grazing over the summer on another farm. This unit used to be a dairy unit, and the stock that were on the farm previously were actually vaccinated against lungworm, but the farmer's heifers obviously weren't. The whole experience shows just how costly lungworm infections can be. And with the Bovilis Huskvac vaccine being so cost effective, it makes no sense at all compromising with this disease threat. I'd urge all farmers to sit down with their vet pre-turnout to discuss the risks and plan the most effective worming strategy for their unit. For most, this will definitely include vaccination pre-turnout against lungworm.

'The disease does seem to be getting more prevalent. Maybe the climatic conditions are influencing lungworm outbreaks, perhaps cattle have lower immunity than they once did, but the message is clear: vaccination remains the most effective lungworm control policy,' Steve Trickey urges.



XLVets would like to thank MSD for their support with this article.

For further advice, contact your XLVet practice to plan your 2012 gutworm and lungworm control strategies.

XLVets exciting new feature...

The 'Student Diaries' column which will appear in every issue of Livestock Matters throughout 2012 follows veterinary students Eva Kenny and Mark Challoner through a year of their studies.

STUDENT DIARY Eva Kenny, Cork, Republic of Ireland



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

Pesky parasites

Nothing rivals that moment when Vet School rings to inform you that they are going to give you a shot at realising your dream of becoming a vet. It is a moment of utter exhilaration; toes tingling, heart racing and tears... though that part may just be me. Growing up on a mixed beef and sheep farm in Southern Ireland with the typical assortment of animals (including the mandatory guinea pig for animal mad children) was idyllic for my young animal-obsessed self. Ever since I was deemed to have long enough legs to make a decent attempt at escaping from whatever cow decided she didn't like the look of a mini person, I was properly introduced to the world of farming.

My first time in England was for my interview for The University of Nottingham. From the moment you walk through that vet school door, you can sense it; the palpable buzz, the air of enthusiasm, staff content in the knowledge that they have done something that no other vet school in Britain has done before: the creation of a hands-on veterinary course, laced with real life disease cases and scenarios, taught uniquely; one body system at a time. Currently in my second year, I am studying the gastrointestinal system and enjoying (as much as one can!) the seemingly endless reams of bacteria, viruses and worms that our creatures fall innocently victim of.

The relevance of it is certainly not lost on me. Unfortunately for my father, he may get his ears talked off him the next time we go to dose the cattle or sheep. 'Did you know that the parasite we're dosing for is only 7 mm long?!' While microbiology and parasitology don't warm the hearts of most vet students, they certainly have far reaching implications for us all. A major cause of disease and production losses, their economic impact on the livestock industry is considerable. I enjoy



(Above) Identifying parasites from faecal samples; preparing a sample for analysis after use of the Baermann technique.

Nottingham's attitude of not only furnishing us with the intricate life cycles but also bolstering our knowledge with practical management techniques such as rotational pasture control.

Of course, this is all before we mention the elephant in the room - the silent but deadly antibiotic and wormer resistance. It is a war we shall all have to wage, starting with learning how to use drugs correctly and effectively. Though we won't be tackling the extent of this in second year we are laying down the foundations; being made aware of the basics such as ensuring animals get the correct dosages.

I value the practical aspects of what we are learning and really believe it will make us more rounded vets. And this, after all is what matters!

STUDENT DIARY Mark Challoner, Manley, Cheshire

Fourth year student, Liverpool University

The End of an Era...

I am a fourth year vet student at Liverpool University. I come from a small 110 acre family farm near Chester. At home we have 400 ewes which lamb in February and March, as well as my own small flock of pedigree Texel sheep, which cause about as much trouble as all of my dad's sheep put together.

My first job was a weekend and holiday job working on a local dairy farm, I started when I was 13 and could just about see over the scraper tractor steering wheel and finished when I was 18 and left for New Zealand on my gap year. During this time I worked on a 1,100 cow dairy farm near Christchurch on the South Island of New Zealand for eight months followed by three months working on a beef cattle station in the north of Western Australia, which was very much in the middle of nowhere but closest to Derby. Once back in the UK I started at Liverpool University and have spent the last three years in the centre of Liverpool before moving out to the Leahurst campus on the Wirral this year.

I find myself writing this first piece at quite a momentous time of my veterinary education as I am about to start what promises to be my final week of lectures ever, Hooray! These will soon be replaced by rotations which form the practical part of our course allowing us to put to use all of the knowledge gained over the last three and a half years and a valuable chance to gain practical skills. Our time will be spent in the equine and small animal hospitals and the farm animal practice at Leahurst. After three and a half years of intense lectures we are all keen to get started despite the promise of much longer hours (including on call) and some very scary responsibilities (we are actually going to be let loose on live animals!)

However, in the meantime, standing in our way are our Fourth Year exams, for which I have to revise the most daunting pile of notes so far, from about 500 hours of lectures given, over 21 weeks this year, making up what has felt like the 'death by lectures' part of our course. This means that over the next



couple of weeks many very stressful hours are bound to be spent burning the midnight oil in the library.

Once exams are over I am in the unusual situation that I will be starting my rotations in Helsinki, Finland. I am one of two people in our year who are going on exchange in March for three months which is both very exciting and nerve-wracking, and will hopefully prove to be an invaluable experience. A quick check of the current weather shows a predicted high of -9°C on Friday so I may need to find time for a quick shopping trip to spend some of my precious student loan buying some warm clothes.

As I write this I have heard from home that lambing has already begun with eight lambs from three ewes so far, which hopefully bodes well (although I think dad will be happier with a few more sets of twins!) Home is near Chester which is only 25 minutes from Leahurst. This comes with the advantage of being conveniently located to pop home for Sunday lunch but also puts me within reach when we have a difficult lambing, so hopefully the difficult ones will hold off until after exams are over.



FarmSkills

	FarmSkills workshops coming up			
		20-23 March	Dyfed	
	Chapelfield	20-23 March	Norfolk	
	St Boniface (20) Veterinary Clinic (20) (20) (20) (20) (20) (20) (20) (20)	20-23 March	Exeter	
		26-29 March	Dumfries	
		27-30 March	Macclesfield	
		3-6 April	Dyfed	
		17-20 April	Congleton	
		23-26 April	Derby	
		23-26 April	Ripon	
		April	Holsworthy	
		20-22 March	Macclesfield	Cattle Foot Trimming
		27-29 March	Dumfries	
	Tparagon	3-5 April	Carlisle	
	Paragon	10-12 April	Barnard Castle	
		17-19 April	Carlisle	
		18 April	Ripon	
	ScarsdaleVets	21 March	Derby	Lambing
		21 March	Salisbury	
		28 March	Salisbury	
We have over 60 workshops from calf rearing to poultry management	San	28 March	Shepton Mallet	0
planned over the next few weeks		4 April	Nantwich	Safe use of veterinary medicines
from Aberdeen to Dorset - please	and a state of the	11 April	Shepton Mallet	use rina licin
get in touch to find out more.	VETERIKANY ONOLIS	19 April	Ripon	es of
Please note dates are subject to change	TYNDALE	27 March	Gloucester	Pre
XLVet Training Services Ltd, Mill Farm, Studley Road, Ripon HG4 2QR	Farm Vandnay Practice Chapellijedd	18 April	Norfolk	Mastitis Prevention

www.farm-skills.co.uk

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

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















vets