

# New industry standard for MOBILITY SEORING

Poor mobility in dairy cows can cost farmers an average of £180 per case through lost milk sales, treatments and productivity. With an estimated 25% of the national herd lame at various levels at any one time, this represents a huge drain on industry resources.

from DairyCo



As well as the cost of poor mobility, the need for a single mobility scoring system has also become clear following the inclusion of mobility scoring initiatives in milk supply contracts. One system would ensure clarity in application and like for like analysis. To help farmers address these concerns DairyCo has launched a new mobility score aiming to become the industry standard for measuring lameness in dairy herds.

Extensively tested by vets, farmers and researchers, the new score replaces over 16 commonly used assessment methods – all with different measurement criteria and terminology. The DairyCo score is the result of 18 months research, consultation and discussion with all sectors of industry including farmers, vets, retailers and animal health and welfare groups.

Brian Lindsay, head of research and development at DairyCo says: 'Through consultation with farmers we discovered that foot health was one of the top three issues they wanted to address, and together with industry we have worked to produce a score which is easy to use and easy to understand. This new system will free the industry of the confusion which has previously gone hand-in-hand with scoring and assessing lameness due largely to the wide variety of scoring systems available.'

The new method is based on a four point score ranging from 0-3. A cow scoring 0, the best possible score, will have good mobility and walk with even weight bearing and rhythm on all four feet, with a flat back. At the other end of the scale, a cow scoring 3 will be unable to keep up with the healthy herd and will either show uneven weight bearing on a limb that is immediately identifiable or walk with shortened strides with an arched back.

Vet and research fellow, Dr Nick Bell from Bristol University has worked closely with DairyCo on the project, and says that 'by simplifying the scoring system, farmers can now conduct mobility scoring on farm without the need for professional help. The new system is easy to apply and for farmers to reap the benefits needs to be carried out regularly. Benefits include:

- Early detection of any mobility problems results in prompt identification and management.
- Poor mobility trends can be monitored and causes identified.
- Provision of figures for benchmarking performance.
- General foot health awareness is increased
- Motivates farm staff to improve herd mobility.

Dr Bell advises: 'For effective monitoring, farmers should check the dairy herd at least once a month and choose a time and a place which allows them to observe cows, ideally on a hard, non-slip surface.'

'Critically if a farmer doesn't score his cows regularly, the reality is that he may have a lot of cows in score two without even realising it. The impact on yield loss, fertility and longevity can be huge so there are significant welfare and financial benefits from adopting the scoring system. In fact, by intercepting lameness early, farmers can save hidden costs for treatment and loss of milk production of up to £4,000 a year for every 100 cows.'

Jonathan Statham of Bishopton vets near Ripon says that the move addresses a long-standing problem in the dairy industry, and suggests there are three key advantages to the development of an industry wide mobility score.

'Firstly, there are advantages for milk production,' he explains. 'Cows which are lame eat less and therefore produce less milk. So, by reducing lameness, farmers may see an increase in their milk production. Additionally, by aiding earlier detection of lameness farmers may be able to treat lame cows sooner. This may result in more cows being fully cured, or

at least reduce losses from cows which are too lame to go into the food chain.

'Secondly, lameness in cows leads to poor fertility and this is a huge issue for the British dairy industry. When a cow is lame, expression of heat is often reduced and heat detection is therefore more difficult. Cows are unable to demonstrate mounting behaviour if they are lame. If 25% of the UK dairy herd is lame at any one time this has a huge impact on fertility, and is a massive concern for the industry.'

Thirdly says Mr Statham, the score could help to support consumer demands: 'Animal health and welfare is a concern for many of today's consumers. If we want the UK dairy industry to be the best in the world, then we need to protect the perception of health and welfare in dairy cows. Happy and healthy cows improve the marketability of all milk products.'

'Finally,' he says, 'the whole process of mobility scoring gives farmers a positive plan of action. Sometimes when you see a cow every day it's hard to spot signs of lameness. However, by definitely scoring a cow say once a month, it gives farmers something tangible to measure against in order to make changes as and when required.'

Category of score	Score	Description of cow behaviour	Suggested action
Good mobility	0	Walks with even weight bearing and rhythm on all four feet, with a flat back. Long, fluid strides possible.	<ul> <li>No action needed.</li> <li>Routine (preventative) foot trimming when/if required.</li> <li>Record mobility of next scoring session.</li> </ul>
Imperfect mobility	1	Steps uneven (rhythm or weight bearing) or strides shortened; affected limb or limbs not immediately identifiable.	<ul> <li>Could benefit from routine (preventative) foot trimming when/if required.</li> <li>Further observation recommended.</li> </ul>
Impaired mobility	2	Uneven weight bearing on a limb that is immediately identifiable and/or obviously shortened strides (usually with an arch to the centre of the back).	Lame and likely to benefit from treatment.     Foot should be lifted to establish the cause of lameness before treatment.     Should be attended to as soon as practically possible.
Severely impaired mobility	3	Unable to walk as fast as a brisk human pace (cannot keep up with the healthy herd) and signs of score 2.	Very lame. Cow will benefit from treatmen Cow requires urgent attention, nursing and professional advice Cow should not be able to walk far and kept on a straw yard or at grass. In the most severe cases, culling may be the only possible solution.



## REDUCING LAMENESS

in your dairy herd...

## Owen Atkinson Lambert, Leonard & May

Lameness - in any animal - is not in the interests of its welfare, it also costs money to treat, leads to reduced animal performance and reduces the morale of those caring for the herd.

#### THE COSTS OF LAMENESS

Lameness costs money - both as a direct result of lameness and also more indirectly. For dairy cows, the direct costs include: time spent treating the problem, cost of treatment, any milk withdrawal from medicine use, and reduced yields.

Reduced milk yields arise from depressed dry matter intakes - as lameness increases, the less cows eat. Table 1 shows how with increasing severity of lameness, milk yields can reduce by a third.

The indirect costs of lameness are reduced fertility and increased culling. Lame cows have depressed feed intakes which further exacerbate the negative energy balance experienced after calving. This then delays returns to heat and reduces bulling activity.

The economic losses of lameness are not straightforward to calculate. However several studies have costed out the likely overall impact and an average lameness case is costing around  $\mathfrak{L}150$ . For a herd where 25% of cows are lame per year, that equates to a loss of around 0.7ppl of milk produced.

#### QUANTIFYING LAMENESS

As a key health issue on dairy farms, lameness needs to be included in farm health planning activities. The first step is to assess how many cows in a herd are lame and, importantly, what is making them lame.

The three most common reasons for lameness are: sole ulcers, white line disease and digital dermatitis.

Cows with sole ulcers are 20% more likely to be culled for lameness, making this the most expensive form of lameness - it is estimated to cost  $\pounds250$  per case. Digital dermatitis on the other hand, is a type of lameness with fewer long-term effects and an average case costs  $\pounds60$ . For white line disease  $\pounds150$  is the estimated cost.

#### TACKLING LAMENESS ON YOUR FARM

The strategies employed to reduce lameness in a herd will depend on what type of lameness is present and how it has been caused - whether from an infection or from the nature of the cows' environment and management.

Digital dermatitis and slurry heel are infectious types of lameness, so attention to hygiene and footbathing is required to combat these problems. Whereas sole ulcers, bruising and white line disease are non-infectious and changes to management, housing and walking surfaces are required to reduce lameness levels. So these types of lameness can be more expensive to resolve.

The cause or causes of lameness will vary from farm to farm. So it's important to first assess how many lame cows are in the herd and what type of lameness they have.

With the help of your XLVets practice, agree a mobility scoring system for the herd, and take the time to then score each cow as she comes in or out of the parlour. From this you can draw up a list of lame cows and put them through the crush to inspect each foot, and with your vet's help determine what is causing the lameness - in many instances there will be

Table 1: Impact of Lameness on DMI and milk yield

Lameness Score*	% decrease in DMI	% decrease in milk yield
1 (0)	0	0
2 (1)	-1%	0
3 (2)	-3%	-5%
4 (3)	-7%	-17%
5 (3)	-16%	-36%

\*figures in brackets correspond to new lameness scoring system

several lesions present in one cow or even one foot. And don't be tempted to just look at the most severely lame cows: those with mild signs of lameness will show developing lesions and be better candidates to treat. After inspecting the feet of the lame cows, or from routine trimming records, it is useful to draw up a 'lameness diamond' to help prioritise efforts. The percentage of the feet which have a problem with slurry heel, digital dermatitis, solar haemorrhages and white line disease, and sole ulcers can be marked on four axes as shown in figures 1 and 2 (overleaf).

Take the case of Farm A: the 'diamond' shows slurry heel has the biggest incidence, followed by digital dermatitis. These are both infectious types of lameness so the key to tackling them is to reduce the infection pressure. On this farm, regular footbathing will be needed, and increased hygiene - for example, more regular scraping of slurry and increasing the frequency and/or effectiveness of footbathing.

Cows with very dirty feet and bigger herds will require a pre-washing bath, or feet to be pressure washed before passing through the chemical footbath. Even when excess soiling is removed, a typical 200 litre bath will require replenishing after a passage of around 200 cows. Daily passage through a 4% formalin solution or 5% copper sulphate may be required to bring infection under control. The frequency and the strength may be reduced once the infection levels have dropped.



#### REDUCING LAMENESS IN YOUR DAIRY HERD OWEN ATKINSON

Remembering that infected cows are the main source of digital dermatitis infection to others, treatment of individual cases should also be done by lifting the feet, cleaning off dead skin and treating with antibiotic powder or spray. This will drastically reduce the reservoir of infection in the herd.

On Farm B, the incidence of lameness is similar but stems from different causes. Sole ulcers are the biggest problem, followed by solar haemorrhages. Footbathing on this farm, whilst good practice, will not bring significant improvement to herd lameness. Instead changes in housing and management are needed to reduce the load on the feet.

Sole ulcers are the most costly type of lameness, and a variety of management factors contribute to increasing their prevalence in the herd (see table 2 below).

So on this farm, there may not be a simple solution - instead, a review with your vet of the management and housing is needed. On some farms, it may be possible to make relatively straightforward alterations to the cubicles to increase lying times. On other

farms, a more long-term investment in more suitable housing may be required. If sole bruising and ulceration is most commonly identified around two months into lactation, it is likely the damage was done at the time of calving. Housing fresh calvers on straw for two weeks, during the high risk period, can dramatically reduce the problem.

Early treatment of sole ulcers will reduce the production losses and regular foot trimming sessions should be instigated or frequency temporarily increased to help get the problem controlled sooner. Correctively trimming a cow's foot early on, at the sole bruising stage, can prevent ulcers occurring.

Corrective trimming will generally result in changing the weight bearing distribution in the hind feet from the outer to the inner claw. Sometimes a block is necessary to achieve the desired re-distribution of weight where a more severe lesion exists. Overgrown toes should be trimmed to make the foot more upright and result in better weight distribution across the sole. Poor trimming technique and over trimming can make a problem worse.

A joint meeting with the herd's nutritionist could also prove beneficial, though the role of acidosis on sole bruising and solar ulceration has perhaps been over-stated in the past.

Certainly, thin cows are thought to be more susceptible to these types of lameness, and cows under nutritional stress are more likely to have disrupted production of healthy horn.

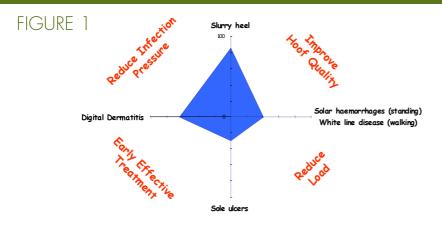
#### GOOD FOOT HEALTH

Cows need healthy feet if they are to reach their potential for dry matter intakes, for good oestrus expression and for improved animal comfort. The farm health planning mantra of: measure, manage, monitor, applies to lameness too. Ask your XLVets' vet to help with measuring the amount of lameness in the herd, and then determine why it is happening, and make changes to reduce the causes of it. The situation should be reviewed every six months.

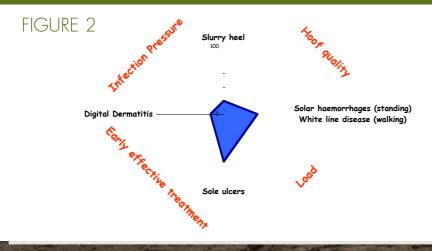
## IMPROVE YOUR HOOF TRIMMING TECHNIQUE WITH OWEN ATKINSON

Regular foot trimming is an essential part of herd health management. The National Association of Cattle Foot Trimmers has a list of accredited hoof trimmers. Ideally farm personnel should also be trained to trim hooves - it is better to act sooner than wait for the routine visit of an external hoof trimmer. An hour long DVD is available on routine trimming and prevention and problem solving of some of the major causes of lameness in cows' feet. Called 'Walking into Profit, it has been made by Owen Atkinson and professional hoof trimmer Steve Bradbury, and can be obtained through your XLVets practice for \$20.

#### Farm 'A' needs to reduce infection pressure

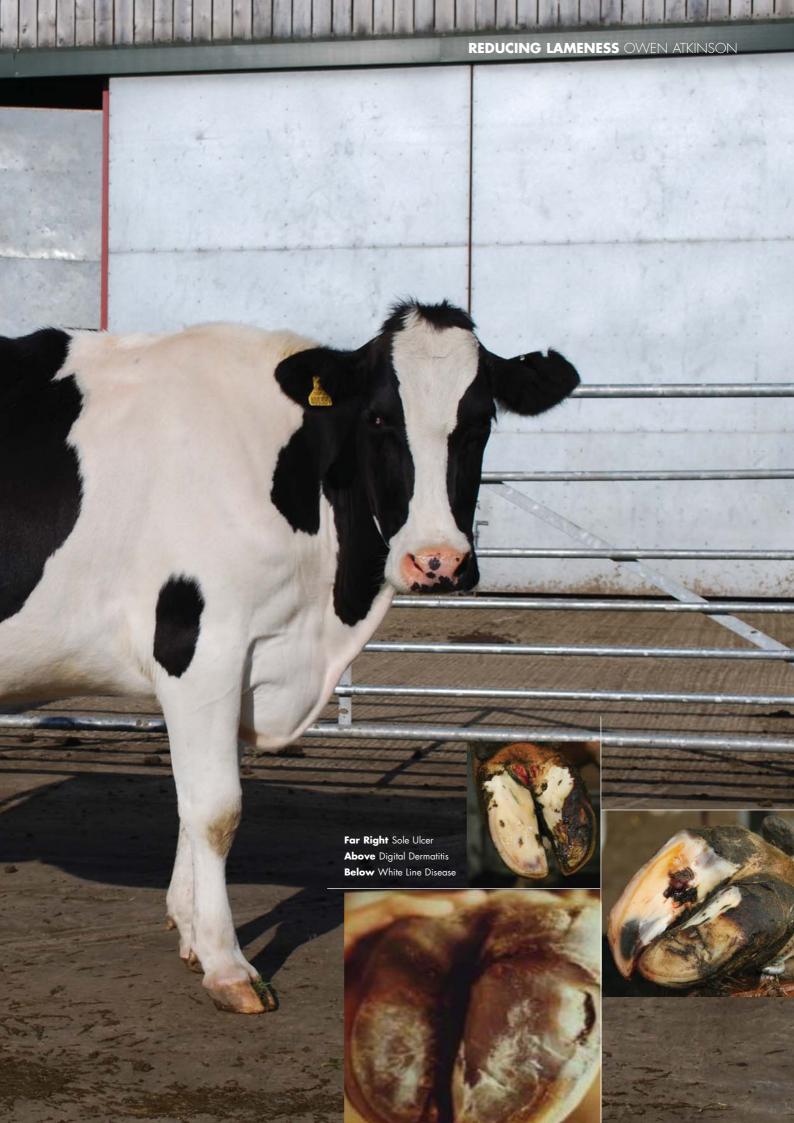


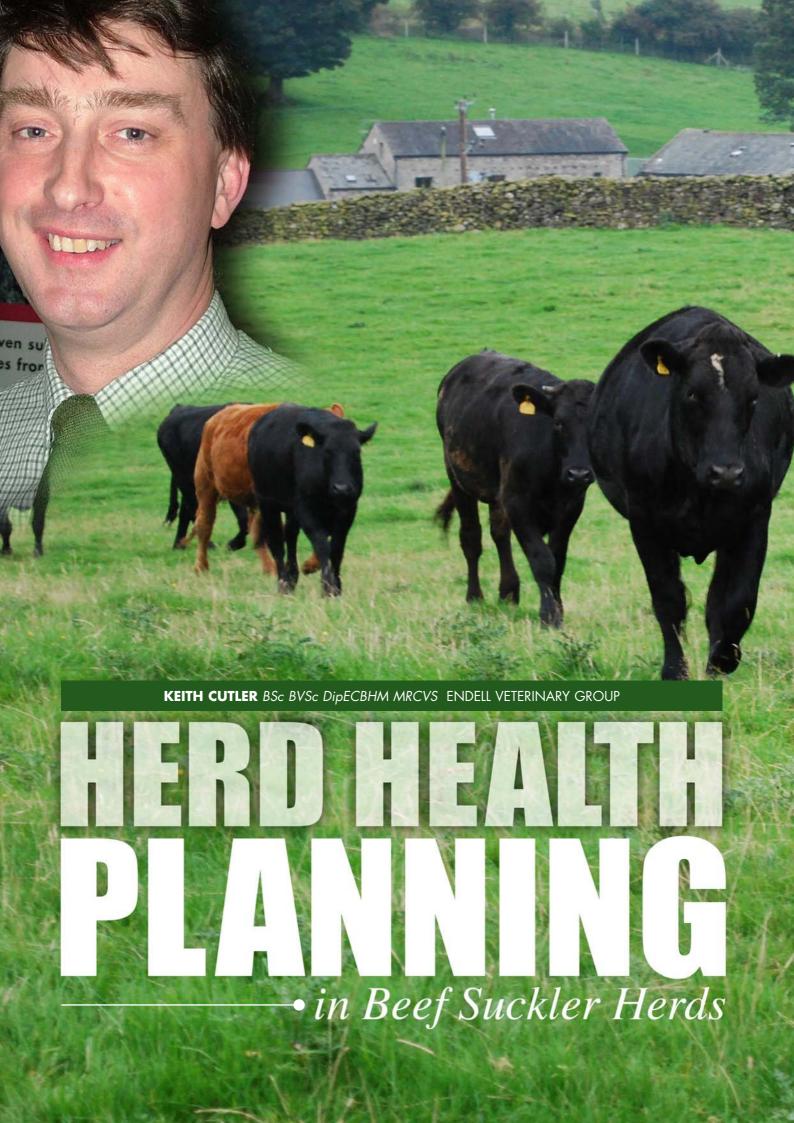
### Farm 'B' needs to invest in changing the cows' environment



#### Table 2: Risk factors for sole ulcers

- Management changes at calving
- Hormonal changes at calving causing the pedal bone to drop within the hoof
- Thin cows/heifers: reduced fat in digital cushion
- Concrete floors
- Inadequate lying times
- Cubicles as opposed to straw yards and pasture
- Toxaemia metritis/mastitis
- Rumen acidosis high starch or protein diets
- Low dry matter diet
- Rapid growth rates
- Genetic
- Overgrown claws





Deople are involved in beef suckler farming for a wide variety of reasons, including a love of the way of life and an expectation to maintain a family tradition. Whatever the underlying reason, however, the requirement to make a profit from the enterprise to allow a continued involvement is universal.

In the broadest possible terms, profit is the residue from output after accounting for all inputs including labour (particularly that of the farmer which is often forgotten), finance and depreciation, food, water and bedding etc. and, of course, especially veterinary expense! To balance these input costs, in a beef suckler enterprise there is effectively a single output; weight of meat sold. This is irrespective of whether calves born are finished on the farm or are sold as stores.

Perhaps the simplest means of improving profitability is to reduce input costs and this can work well when it results in increased efficiency. It can, however, also have adverse effects on profitability; feed costs can be reduced to nil simply by not feeding your cattle but this will not result in any improvement in profitability!

An alternative approach to improving profitability is to increase output, either for a fixed input or by increasing inputs so long as the increased input results in an increased output of greater magnitude.

In order to determine where best to invest this increased input in whatever form it may take (money, time, effort etc.), it is important to set targets and then to compare performance against these targets. Targets should be set

following consideration of many factors including the performance of other farmers both in the same part of the country and running similar enterprises in other parts of the country and previous performance on the same holding. (This is benchmarking which, perhaps, in a less formal manner, has been done 'over the farm gate' for years!)

Benchmarking allows the least efficient parts of your enterprise to be identified and targeted for attention. This is important because it is in these areas that a fixed unit of investment is likely to have the greatest impact. To illustrate this point consider two suckler herds, A and B, both with a similar number of cows grazing a similar area of land and managed in a similar way. Suppose, following a ten week bulling period, 90% of the cows in herd A are pregnant, but at calving only 70% of them deliver a live calf, and in herd B 70% of the cows, following a similar bulling period are pregnant, all of which deliver a live calf at calving. Both herds, therefore, deliver very similar results in terms of numbers of calves born and both herds present obvious opportunity to improve production efficiency and therefore profitability. If the effort required to do this is targeted incorrectly, however, improvements will not be made so, in herd A, issues which may affect the maintenance

of pregnancy and calf survival should be targeted whilst in herd B concentration should be paid to improving fertility.

Once targets have been set and measures taken to improve performance, the outcome should be monitored to ensure the desired results are being achieved. Targets should then be redefined and the input of effort reconsidered to ensure that investment is being made in the most advantageous areas. This is the ethos behind herd health planning which, like benchmarking, we have all, to a greater or lesser extent, been doing, albeit in a less formalised way than is now being discussed, for years. It is not new!

In a beef suckler situation, the options for increasing output are limited. Essentially they include increasing the number of calves born, reducing the number of calves dying and increasing food conversion efficiency and growth rates. Each of these are huge topics in their own right and are impacted by multiple factors ensuring a complexity far too great to unravel in one short article. The essentials have, however, been distilled down into key areas embodied in the EBLEX Better Returns programme. These areas include nutrition, herd replacement policy, bull selection and management and the control of infectious disease.



#### KEITH CUTLER BSc BVSc DipECBHM MRCVS ENDELL VETERINARY GROUP

Bovine nutrition is a complex subject with ample opportunity to go wrong and even greater opportunity to fail to maximise resources. Mineral deficiencies, particularly of copper, iodine and selenium, are frequently blamed for poor performance and where they do occur this can, of course, be the case. Deficiencies in energy and protein nutrition are, however, perhaps more common (they are certainly more common in the dairy industry) and deserve greater attention. Benefit may be gained from greater attention to sward management to optimise intakes and from managing body condition scores to ensure cows calve in a 'fit-not-fat' condition to minimise calving problems and are then placed on a rising plane of nutrition to ensure a rapid return to cyclicity and optimal fertility during the subsequent serving period and to ensure a good supply of milk to feed the newborn calf.

Your herd replacement policy should, involve a consideration of the breed of cow required, which will depend on husbandry methods employed and the target market for their offspring, and the source of those animals. (Homebred animals may have advantages from a biosecurity point of view but other desirable attributes may be missing.) You should also consider how and when herd replacements will be introduced into your herd; calving them earlier than the main herd in a seasonally calving situation will maximise the probability of a long and productive life within the herd.

Of equal importance to herd replacement strategy is bull selection. Again this should be made with a view to your proposed market and within breeds EBVs should be used to select the best animal to achieve your aims

for your herd. Bull management on the farm is also important. A top performing bull should be able to get 95% of fifty normal, healthy, randomly cycling cows pregnant in less than ten weeks but, although few bulls are infertile (incapable of getting any cows in calf) many bulls (approximately three in ten) are subfertile. This results in a greater spread of cows calving in the calving pattern and in a seasonally calving herd practising batch weaning calves born late in the calving pattern will be younger and therefore smaller at weaning and so worth less if they are to be sold as stores or, if they are to be fattened on the farm of origin they will take longer to finish and consume more food to do so, thereby returning a lower margin than their older contemporaries. (Calves born late in the calving pattern are also more prone to disease which will also affect their productivity and cows calving late in a seasonally calving herd have less time for uterine involution to occur and to start cycling than cows which calve early before the bull is reintroduced. Early calving cows tend, therefore, to be more fertile when next put with the bull and so continue to calve early in the calving pattern, whilst later calving cows tend to calve later and later until a decision is forced either to carry them round or to cull them.) Maximising bull fertility by ensuring that they are in the correct body condition score, that they have sound legs and feet, that there are no abnormalities of their reproductive tract and, if necessary, that they are producing high quality semen is recommended prior to the bulling period.

Many infectious diseases can have a deleterious effect on the productivity of a suckler herd for many reasons. Some will have an adverse effect on fertility or cause abortions or calves to be stillborn. Others, for example scour, pneumonia and parasites, will affect calf performance. In order to plan a strategy to minimise the impact of disease in your herd it is first necessary to determine the health status of the herd. This can be done by strategic sampling and testing of selected animals to determine their status with respect to BVD, leptospirosis, Johne's disease, venereal Campylobacter and other diseases. When this is known, plans should be drawn up in conjunction with a veterinary surgeon to control and possibly eliminate those diseases that are present and to safeguard the herd against the introduction of diseases that are not present.

#### **Useful Performance Indicators**

Cows PDed in calf

**TARGET:** >95%

Calves born

**TARGET:** >95%

Calves born dead

**TARGET:** <2%

Calves born in the first three weeks of the calving period

**TARGET:** >60%

Calves born in the first nine weeks of the calving period

**TARGET:** >90%

Calves weaned

**TARGET:** >98%







Prior to taking part in the XLVets' beef health planning project, organic farmers Kate and Andrew McIver-Redwood had kept veterinary input to a minimum, in order to save costs. However, nearly 18 months later, they are keen to know more about the health status of their livestock and interested in the monitoring of disease presence.

The McIver-Redwoods have been tenants for the past eight years at Haye Farm, a National Trust Farm near St Dominic in Cornwall. They run a low input organic system, marketing organic beef and lamb locally. Since the project first started in 2007, they have doubled the acreage of ground and increased cow numbers in the spring-calving suckler herd from 30 to 35 plus 8 in-calf heifers. The flock of 80 breeding ewes has increased to 100 plus 50 replacements, with ultimately a target flock size of 200 ewes.

Vet Stuart Gough of Calweton Veterinary Practice, began the project by assessing the disease status of the suckler herd. However, with wet weather and a high risk of fluke Andrew asked for some advice on the health of his sheep as well. So a flock health planning project has been run simultaneously with the beef project.

#### LIVER FLUKE RISK HIGH

Through the XLVets project, which ran 2007-2008, faecal samples were taken from the cattle as well as the sheep which grazed with them, and tested for presence of worms and parasites.

Andrew explains: 'Fluke's not been a major problem in the past - we've not had any reports of liver damage from the abattoir. However some of the land grazed by breeding stock is old marshland, which coupled with the wet summer of 2007 meant the risk of fluke was high. Tests early on in the project proved negative. But in later tests, adult larvae were found in the samples and so we obtained an organic derogation to use a flukicide.'

'Now that we've had another wet summer, I'll be asking Calweton vets to test my beef cattle

again, and perhaps save a bit on cost by assuming that as sheep are more susceptible, then if cattle have a problem, so do they. Then I'll dose all livestock with flukicide again.'

With our new area of land, which is less wet, it will be interesting to see if there is a difference in fluke levels - if so we could look to manage our grazing policy to keep animals away from the wet land.'

#### AVOIDING A BVD CATASTROPHE

Assessing the current health status of a herd or flock is one of the first steps in health planning. Early on in the XLVets project, cattle were blood tested for the infectious diseases BVD and leptospirosis.

The suckler herd has been a closed herd for the past seven years, and it tested totally naïve to the BVD virus - no animals were actively carrying the virus and there was no evidence of cattle ever having been exposed to it.

Stuart explains: 'If BVD-infected cattle had been brought into contact with these naïve animals the consequences would have been devastating - abortions, infertility, and the subsequent birth of persistently infected calves.'

'Andrew has now purchased some in-calf cows from a high health status herd, but even so, they weren't brought onto the farm until we had confirmed the absence of BVD, leptospirosis and, in older cows, Johnes' disease. If blood tests had shown any were carrying the BVD virus then they would not have been purchased. We went together to the vendor, and also assessed their foot health.'

'Similarly, a new bull, a South Devon, has been purchased only after assessing its health status, and carrying out fertility tests. A hired in bull, a Red Angus to breed with the heifer replacements was also tested first. Its owner was actually quite pleased we gave it a health check - he can now rent it out with confidence.' The initial test results on the suckler herd had showed evidence of leptospirosis, which could account for some of the herd's poor reproductive performance in the past. Stuart advised Andrew to vaccinate just the breeding cattle, and to test the reared calves for exposure the following winter.'

#### PREGNANCY DIAGNOSIS

Prior to the health planning project, cows were never PDed, and those that had failed to conceive would eventually be identified and culled out of the herd. This system has changed and now all are scanned and barren cows identified sooner and either the problem resolved or cows dispatched for slaughter earlier. The pregnancy rate is around 90% and Andrew hopes further improvements can be made. He awaits the results of the leptospirosis testing on the 6-month old calves.

During the project, two heifers which were being finished unexpectedly gave birth to calves. Stuart explains: 'This is not unusual in suckler herds where the bull is being run with dams with heifer calves sometimes as old as seven months and so also likely to come on heat and conceive. On some extensively run farms, it is accepted that this will happen and heifer calves are routinely injected to abort any pregnancies. For Andrew and his organic system, herd management changes have averted this problem without the need to resort to medicines.'

#### CALE HEAITH

Another area where veterinary intervention has been beneficial is the screening of calves for respiratory diseases. Andrew used to get one or two cases of pneumonia each year. Test results showed previous exposure to pneumonia viruses - RSV and PI3, so the 2007-born calves were vaccinated against these diseases prior to housing.

Thanks to better housing and ventilation, and the targeted vaccination programme, no calves needed antibiotic treatment for pneumonia over the winter, despite it being a bad year for respiratory diseases.

Meantime, a new cattle shed has been erected at Haye Farm, and simple structural changes made to existing housing to improve air flow. Andrew wants to keep monitoring the situation and will be asking Calweton vets to test the calves again to see whether vaccination will be needed.



#### STUART GOUGH CALWETON VETERINARY GROUP ANDREW MCIVER-REDWOOD ORGANIC FARMER

## BALANCING PERFORMANCE WITH FEED COST

Advice and planning was also given on the herd's nutrition by an independent nutritionist. However, Andrew has weighed up the economics of a better diet and decided for the time-being that the extra cost of boosting growth rates is of no financial benefit.

The cattle at Haye Farm tend to reach their finishing weights of 270-300kg for heifers and 300-350kg for steers. Andrew adds: 'With OTMS we had to sell the cattle at 30 months anyway, although about 30% of them could really have done with putting on more weight. With no longer having this cut-off point we will just keep grazing them for longer - it's a low input system and cheaper to do this than to supplement their diets with high-priced organic concentrates.'

#### IMPROVED FLOCK HEALTH

Andrew is convinced he has managed his sheep better thanks to the prompts in the flock health plan that Calweton's Miranda Josephson has drawn up, and a higher focus on management changes that impact on health and productivity.

Andrew explains: 'This past year I've paid more attention to the flock - ewes were grazed on new reseeds and so went into the tupping season in better condition. I bought another

ram as I'd perhaps been a bit ambitious expecting one Charollais ram to cover 80 ewes. So I bought two Lleyn rams.

We also used raddle and crayons for the first time and it looks like about 95% of ewes have held, although I've yet to have them scanned. This could mean lambing will all be over in about two weeks instead of dragging on and on.'

#### CONTINUED HEALTH PLANNING

These days Andrew is keen to keep track of the health status of his livestock, and values the process of testing to identify or monitor disease situations. He plans to continue his closer relationship with the Calweton practice and its vets, especially for the next couple of years until he has gained a clearer picture of the disease situation on his farm: 'As an organic farmer, I don't want to be routinely administering drugs if I don't need to.'

'But it's clear there are some health areas where preventative medicines are of benefit right now.'

Stuart comments: 'For each of his cattle, Andrew now knows its disease status and whether each cow is pregnant or not. At certain points in the year, we will be monitoring parasite levels or checking for presence of lepto or respiratory viruses.

From these results we can then adopt the best strategy within the confines of Andrew's organic system and principles. To some degree our roles have changed over the past year - it is now Andrew who is the one driving the proactive and informed approach to monitoring and improving the health and performance of his livestock.'

#### Haye Farm Facts

- Organic low input system
- 43 continental X suckler cows/heifers
- 100 breeding ewes and 50 replacements
- Acreage doubled to 340 acres

#### Farm Health Plan Results

- Biosecurity procedures established
- Thorough bull selection
- Improved cow fertility
- Better calf health
- Improved flock health and productivity

**Below** All cows are now routinely PDed so that barren cows can be identified sooner and either the problem resolved or the cow dispatched for slaughter earlier.







#### ...Integrated approach taken to a range of health issues for College's dairy cows

Minster Vet Andrew Schofield makes fortnightly routine visits, and works with the College's herd manager Andrew Reilly, to look after the two herds whilst accommodating the involvement of a range of students for whom working with the herds is part of their coursework.

#### **FERTILITY**

Significant improvements in fertility were made during the 12 month term of the XLVets health planning project.

Through the project, independent nutritionist Richard Vecqueray of the Evidence Based Veterinary Consultancy reviewed the herd's nutrition and made changes to increase the energy density of the diet, so reducing the energy deficit in newly calved cows, and improving return to heats. These changes have also significantly reduced the incidence of milk fever in the herd.

Poor heat detection was identified as another contributory factor to low fertility. To improve detection, evening patrols were started up to look for cows on heat, and a tail-painting system was discussed. Evening milking had often finished by 6pm, so a mid evening check for cows in oestrous became a priority.

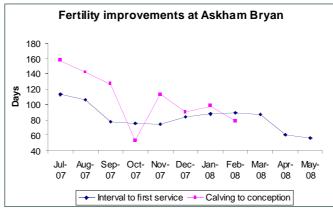
As a result of the improved nutrition and heat detection, the days to first service halved from 113 down to 56 over the 12 month period of the project. And the number of

days from calving to conception fell from 158 to 78 in February. With some monthly cell counts over 300,000 cells/ml, the college herds were getting penalised on milk price by around £2000 per month. After making changes across several areas, cell counts are now around 220,000 cells/ml, so the milk cheque is bigger.

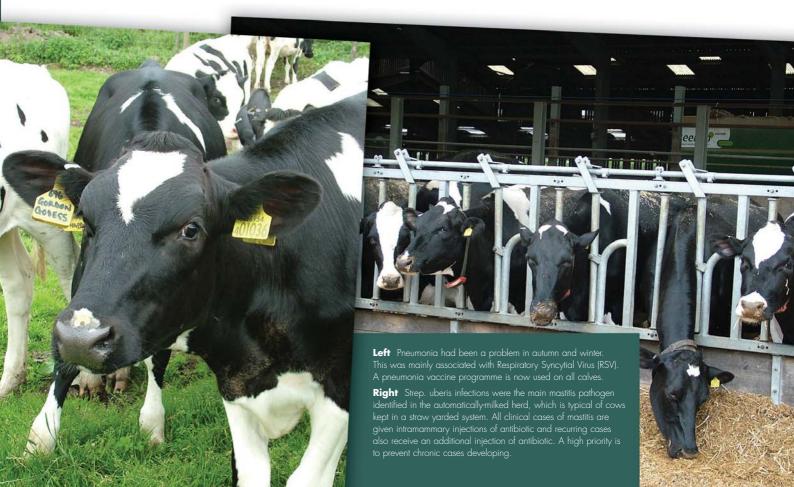
Andrew Schofield explains: 'The automatically-milked herd is housed indoors on straw all year round, and the conventional herd is also loose-housed on straw and milked through a fast exit parlour. There are still areas we will need to look at, including a system so that the cows in the robot yard can go out to grazing in the summer. More than anything else this will give the buildings a break, and help prevent

the build up of infections, particularly mastitis.' Bacteriology testing of all clinical cases of mastitis was carried out to ascertain which bacteria were the culprits for each cow. This indicated that the main cause of the mastitis was a result of Strep. uberis infections, and also a few cows with E.coli. These are common findings in cows kept in a straw yarded system.

All clinical cases of mastitis are tubed with Leo Yellow and recurring cases also receive an additional injection of antibiotic. A high priority is to prevent chronic cases developing. An extra \$500 per month is spent on an SOP product - a powdered disinfectant - which is applied to the straw bedding weekly to reduce the environmental bacterial challenge.







#### ANDREW SCHOFIELD MINSTER VETERINARY PRACTICE ANDREW REILLY COLLEGE HERD MANAGER

Andrew Schofield adds: 'A targeted approach has been taken at drying off - individual cow somatic cell counts (SCC) are assessed. Low cell count animals are treated with a dry cow tube and Orbeseal. High cell count cows are either culled out, or are given a dry cow antibiotic tube, Orbeseal plus an injectable antibiotic. In low cell count cows we are aiming to prevent infection, in high cell count cows we are aiming to cure infections.'

ADAS consultant Brian Pocknee was invited to assess the milking routine and made recommendations to help reduce cell counts. In the new milking routine, all udders are sprayed and wiped dry before milking and teats are dipped again afterwards. And for the first few months of the project, peracetic acid was used to dip clusters to prevent cross-contamination between cows.

## RE-HOUSING YOUNGSTOCK TO COMBAT SCOURING

There had been some significant problems with scouring in young calves at Askham Bryan. This was identified as being a combination of factors. Calves were housed in a polytunnel in which condensation dripped down and this made the bedding wet and created a humid environment. An ad-lib milking machine also increased bedding wetness. With all year round calving, there was also no opportunity to clean out the premises between batches.

In addition, blood tests for IgG levels revealed that a number of calves were not receiving sufficient colostrum. An active process was put in place to make sure that all calves received

colostrum from their dams, or stomach tubed with a colostrum replacer. Simply leaving cows and calves together for 24 hours wasn't adequate.

Andrew Schofield says: 'In an ideal world my personal preference would be to use individual calf hutches where generally calves do really well and thrive in an environment of low disease pressure. One downside to hutches is that they generally require a much higher labour input. Hutches also carry a cost and the funds to make this investment were not available. Fortunately on looking around the site, we realised we could convert a redundant old student sports hall into a better housing environment for the calves.'

The old hall has been taken down to a basic structure of a breeze block base with Yorkshire boarding above. The ad-lib milk feeder has been replaced with a less sophisticated set up - an old immersion heater which the college already had, and a mixer. Milk is mixed and fed twice a day using a bucket and teat system to individually penned calves.

Andrew Schofield adds: 'Initial tests indicated that the scour problem was caused by rotavirus. Having made changes to the housing and the way colostrum was being fed, scouring in calves has largely settled and we have held off using a rotavirus vaccine.' Previous problems had also been encountered with pneumonia particularly in the autumn and winter. This was mainly associated with Respiratory Syncytial Virus (RSV). A pneumonia vaccine programme using a combination of Rispoval Intranasal at 2 weeks of age

followed by Rispoval 4 at 12 and 15 weeks is now used on all calves.

#### CONTROLLING INFECTIOUS DISEASES

The College has been buying in some dairy replacement heifers and so is not a closed herd. Store cattle are also bought-in. So there is the potential for infectious cattle diseases to be brought onto the farm.

The herd has always been naïve for Leptospirosis, a disease which is zoonotic and therefore can be detrimental to human health. However, it was decided to start vaccination against it due to the risk factors the presence of sheep on the farm, bought in cattle and the numbers of students from a farming background working with the herd.

As part of the health plan a basic screening was also carried out for Johnes disease - blood samples from 10 older cows have been analysed and a PCR test carried out on a pooled faeces sample.

Andrew explains: 'We know Johnes disease is not a significant issue in this herd. After leaving their dams, calves are fed on milk replacer not pooled waste milk'.

Whole herd vaccination against BVD has been in place for several years now.

Another infectious disease present in the herd was Digital Dermatitis. This has appeared in the herd in the last few years and is responsible for the vast majority of lameness seen in the cows. The situation has improved following the establishment of routine footbathing. 'Cows are put through a footbath once a week in the summer and twice weekly in the winter. We experimented with where best to locate the tray and decided it was best to use two trays sited at the exit of the parlour cows walk first through a pre-wash of water and then a tray of copper sulphate solution. Eventually we will build a permanent footbath facility,' explains Andrew Reilly.





#### FURTHER HEALTH PLANNING

Significant improvements have been made at Askham Bryan, however there are still more which could be made, like better heat detection for instance, believes Andrew Schofield. 'At the end of the day this is an agricultural college, it is for the benefit of both the students and the farm that we maximise their input, heat detection is an ideal example of this'.

As part of the project, three open days were held: a stakeholder meeting, and two farmer meetings. Workshops were organised on the subjects such as basic techniques such as a farmers clinical examination, stomach tubing, i/v injections and pitfalls in footbathing. Both Andrews were pleased not only to show farmers what could be achieved with herd health planning, but also for them to appreciate that running a College herd has its own challenges with regards to labour commitment and funds.

#### **IMPROVED FEED INTAKES**

Simply raising the feed manger rail for the herd at Askham Bryan College in Yorkshire enabled cows to reach more of their feed and increased dry matter intakes, resulting in more milk in the bulk tank. Bald patches on the back of cows' necks are the classic tell-tale signs that animals are struggling to get to the feed. So as well as making cubicles larger for today's modern cows, look at the feeding stations and see whether changes need to be made there too.

#### Askham Bryan College Farm Facts

- College students involved on the farm
- Conventionally milked herd of 160 cows
- 40 cows on automatic robotic-milker
- Robotic herd's milk yield 9276
- Conventional herd's milk yield 9750
- Flock of 230 sheep
- 80 beef cattle

#### Results of Herd Health planning

- Improved fertility
- Reduced cell counts and a higher milk price
- Less milk fever
- Less lameness
- Healthier calves
- Improved feed intakes



#### ONGOING HEALTH PLANNING FOR OVERWINTERED SUCKLER HERD ABBEY PARK FARM

#### WINTER HERD MANAGEMENT

Andrew Allan explains: 'Our main aim is to produce added-value suckler-bred beef on a low-cost system. We also aim to be self-sufficient in cattle and feed - the latter being particularly important as we are in an organic system. Beef is sold into Waitrose, London hotels, and local butchers.'

The 200-cow herd is managed under a system which aims to produce calves as efficiently and simply as possible on land that can dry out in hot summers. One significant difference from other beef units is the outwintering of animals in straw yards, rather than housing them. Andrew says: 'Cattle love being outdoors, and it's so much healthier for them.'

During the winter, the pregnant cows and bulling stock are grazed outdoors on turnips or kale which were sown into a standing crop of wheat. At harvest the straw is baled and left in the field in readiness to provide winter roughage for the stock, this also minimises machinery use.

In-calf cows are brought into a straw yard one month before calving. Here, the straw pad consists of a hard core base onto which a layer of straw has been built up high enough to allow the pad to become free draining. This requires more straw than if the animals were inside a building, but is a lower cost alternative to investing in new buildings.

Tim adds: 'Once the calves are born, and have suckled well and look strong, then they and their dams go back out to the fields again. This can be as soon as the next day - the less time they spend on the pads the better, from a disease perspective.'

#### REVIEW OF CALVING PATTERN

Through the Defra-funded Health planning project, independent beef consultant Basil Lowman was invited to the farm to review the system and make recommendations.

The herd at Abbey Park Farm calved down in spring and autumn. Basil suggested moving to a single spring-calving block would make management easier. However, wary of the potential for grazing shortages Tim Roberts explains how the system has changed today: "When the Defra project started, about two-thirds of the herd were calving in the spring, but now it's more 50:50 spring:autumn calving. Moving more cows into autumn calving spreads the risk as the land here is very light and we can't guarantee the grass in dry weather. It also spreads the workload.

Tim explains: 'Depending on the weather and amount of grass, autumn born calves are either weaned early June or kept on their dams until early August. Having flexibility in the system is important - the seasons and weather are different every year.'

Claerwen adds: 'Whether spring or autumn calving, it's beneficial to have a compact calving block. We aim for a mating period of less than 63 days and a calving period of less than 70 days.'

This has the following benefits: it reduces disease - because where you have calves with a wide variation of ages, the older ones can spread disease to the younger, more vulnerable, ones. With a set weaning date, the younger calves would also have less time with their dam, so closer birth dates mean overall, animals are heavier at weaning.'

Tighter calving blocks also make the management of nutrition and husbandry procedures easier as cows are all in a similar stage of production and calves are similar ages and weights too. And it is easier to select replacement heifers as they are all a similar age and weight.'

'However to achieve these targets the management and fertility of the herd - including the bulls - is paramount.'

'Our target has been to have at least 65% of cows calving in the first 30 days of the calving period and we did reach this in spring 2008. All cows had calved within 63 days, and a weaning rate of 99% was also achieved.'



#### ONGOING HEALTH PLANNING FOR OVERWINTERED SUCKLER HERD ABBEY PARK FARM

Claerwen Randolph and Graeme McPherson Larkmead Veterinary Group, Oxfordshire

#### YOUNGSTOCK

Youngstock are weighed every eight weeks to monitor performance and also to fulfil the breed society's requirements for performance recording of EBVs (Estimated Breeding Values).

All calves receive a creep feed of home-grown spring barley. Tim says: 'Since feed conversion gets less efficient as they get older, it's cheaper to get them off to a good start and feed them well when young.'

'The heifers are calving down at two and a half years. Basil had suggested creep feeding calves to move calving age to two years but we have decided against this for two reasons: being organic, feed costs are very high, and secondly the South Devon is a large-framed later maturing breed and the extra six months enables them to fill out more.'

#### BETTER BULLS

When the South Devon herd was first started up Tim admits there was a lack of familiarity with the breed. The genetics of one of the bulls used had led to problems at calving instances of oversized calves resulted in the need for caesareans or worse, dead calves.

However, now bulls are always selected based on their EBV - (estimated breeding value). This includes information on their relatives, the herd from which they came, and the calving ease of their offspring.

'Choosing the right bulls has definitely made a difference to calving ease. In fact we calved over 200 cows in 2008 and didn't have to call the vets out to a single calving. We just had to assist with calving in a few cases due to malpresentation of the calves. Sub-fertility had been another problem with bulls in the past. But now all bulls are fertility tested by Larkmead vets before being run with the herd, thereby ensuring cows can be put back into calf more quickly.

Claerwen explains: 'A bull breeding soundness examination includes a physical examination and a semen examination using electro-ejaculation and if necessary a serving assessment. When it comes to fertility, the bull is half the herd, so it's worth assessing every bull to help achieve the target mating period of 63 days.'

Tim explains: 'Within the last two years, two bulls have been found to be infertile. It's saved a huge amount of money to have them tested first rather than put them out with the cows and then fail to get cows in-calf at all, or end up with extended calving blocks.'

#### IMPROVING MINERAL STATUS

A lot of 'sleepy' calves had been born in 2007. Blood tests showed low levels of iodine, selenium and copper. So now iodine is added to the drinking water, and cows given a mineral bolus one month before calving.

The mineral status of calves when tested at weaning was good but on testing again four months later levels of key minerals were low again and so a mineral bolus was administered. 'This has saved money in the long run,' explains Tim. 'Being proactive and checking nutritional status means performance can be maintained. Fertility has improved, with conception rates increased and no more sleepy calves.'

#### IMPROVED HANDLING FACILITIES

At Abbey Park Farm, investment has been made on improving the handling facilities, such that work required can be carried out with just one person. During the farm walk organised by Larkmead in April, Basil Lowman attended and pointed out the benefits of the new race which was curved and also had a circular forcing gate. He explained that animals like going around corners to see what is around the bend so they go on their own and move faster compared to straight races. He also recommended putting boards up so the animals couldn't see through the race. He reckoned they would come to the crate more freely.

## PROACTIVE HEALTH PLANNING CONTINUES...

Tim comments: 'In 2008 we lost a calf - it had had a fever and was scouring - so we contacted Larkmead who were able to diagnose it died from septicaemia brought on by an E.coli infection. It cost money to investigate, but at the end of the day, it was worth it - that sick calf could have been the start of a bigger epidemic of some kind, so it was worth checking out the nature of its death. Similarly, we also investigate all abortions.'

Following the addition of more land to the estate, it was decided to increase herd numbers with the purchase of some extra heifers. These came from two herds with a known health status and were tested for infectious diseases - including TB - before being moved to the Abbey Park Farm, where they were quarantined on arrival and re-tested. In line with the rest of the herd they were vaccinated for IBR, BVD and leptospirosis.

Tim Roberts is keen to point out that herd health planning is more than just paper - it's about having the mindset to think about every stage of an animals' life, and how management will affect its health and performance.

## SHARING KNOWLEDGE

#### - FHP RESULTS...

Larkmead Veterinary Practice held a farm walk in April 2008 at which independent beef consultant Basil Lowman and nutritionist Richard Vecqueray gave presentations. Basil pointed out that through not housing cows, management costs - machinery, labour, property repairs - could be reduced by 39%. Another benefit of outwintering was that it avoided the risk of pneumonia which could be a problem in housed stock especially in poorly ventilated buildings.

#### Abbey Park Farm Facts

- 200 cow suckler herd, mainly pure South Devon (including 70 pedigree cows)
- 2000 acres
- Organic low cost system
- Herd outwintered on kale and hay

#### Farm Health Plan Results

- Tight calving block
- Almost 100% calves weaned
- Easy calvings no vets needed
- Vet bill reduced

66%

of cows calved within first 30 days of the spring calving block







## **Diploma in Bovine Reproduction**

Congratulations to all the XLVet members who have recently graduated having obtained the Diploma in Bovine Reproduction (DBR) from the University of Liverpool.

They are Simon Allen, Allen and Partners, Whitland; Andy Barrett (with distinction) Kingsway Veterinary Group, Skipton; Darrell Irwin, Willows Veterinary Group, Northwich; Victor Oudhuis, Paragon Veterinary Group, Penrith and Jo Bates, Scott Mitchell and Associates, Hexham. This two year part-time Diploma is designed to provide postgraduate education in an important aspect of bovine health. The overall aims of the course are to enable veterinary surgeons in regular contact with cattle to:

- achieve a widely-based and deep understanding of bovine reproduction, which will enable them to provide sound scientific advice to the cattle industry;
- develop appropriate skills; and
- maintain a critical approach to their own work

The Course is modular in structure, with each week requiring residence at the University with input from University staff, external cattle

researchers, and specialists in their particular field. There are a total of eight residential weeks spaced over two years.

Many members of XLVets have undertaken and passed the DBR. According to Steve Borsberry, 608 Vet Group, Solihull 'The DBR course certainly opens the mind, ensuring that any published work is read in a critical manner.' He feels the knowledge gained from the course emphasised that an open mind is essential when faced with reproductive puzzles and that there may be more than one cause of poor herd performance.

XLVet member practices are committed to working together to ensure the very highest standards of cattle health and productivity and service to their clients. Undertaking further training and engaging in new ideas is an important part of this process. We wish those members who have enrolled in this year's DBR every success in their studies.

## XLVets JO STANLEY

being the XLVets 'crash fest dummy' for the AMTRA examination, it was a huge relief when I found out I had passed ('A Grade' for the Base Module!!). The XLVets two day AMTRA training session in York, was a massive help, and I'm positive it would've been a very different outcome had I not attended.



#### XIVets VICTOR OUDHUIS

Paragon Veterinary Group

'The DBR made me reassess the things we take for granted in practice and find a scientific justification for them. As vets we are ideally positioned to bring the different aspects of a farm business together and give independent advice to our farm clients. However, the biggest influence on animal health on the farm is still the farmer himself. Whatever his management decisions are will determine how effective our advice will be. Therefore I think a more holistic approach might be needed with a far bigger focus on farm management. In order to achieve this it is essential we affirm our position of independent adviser on farms and work much closer with farmers to achieve the goals they want. Finding ways to do this, hopefully with the extra knowledge gained, will be one of my challenges for the coming years.



## XLVets ANDY BARRETT

Kingsway Veterinary Group

Studying for a post graduate diploma while holding down a full time job was certainly challenging but the teaching and study were very rewarding. I would like to thank my colleagues in the practice for their support and the farmers who helped me with my reports and dissertation. The DBR forced me to question many of our procedures and the new ideas that I've brought back should help everyone in the practice to provide our clients with a really good quality service.



Congratulations to XLVets member Jonathan Statham from Bishopton Veterinary Group who was the runner-up for the Livestock Adviser of the Year award at the recent Farmers Weekly Awards.

XLVets JONATHAN STATHAM

FARMERS WEEKLY AWARDS



#### XLVets SIMON ALLEN Allen and Partners

After 20 years in practice, my enthusiasm was waning and I was worried about becoming the next 'old git' in the armchair in the corner of the vet's common room. After trying out a couple of 'taster days' at Leahurst, I grasped the nettle and enrolled. The course is not for the faint-hearted and it has taught me the value of evidence-based veterinary science and associated disciplines including pedigree classification with the cattle breed societies at a time when I was believing my own anecdotes without the necessary objectivity. Furthermore, I have acquired skills that were beyond my means otherwise and I would commend the DBR modules to those who are willing to learn and I would feel privileged to mentor anyone so inspired.

