XLVETS - EXCELLENCE IN PRACTICE www.xlvets.co.uk ISSUE 5

FARMING review

APRIL 2009

CLOSTRIDIAL DISEASE IN CATTLE

Are You Covered...

Wherever livestock are farmed it's important to consider the risk of clostridial infection and disease.

Farm Health Planning
Healthy Animals Healthy Profits

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Mastitis

Young Dorset dairy farmer Mark Ford started a flying Holstein Friesian herd in 2006. New herds often have more than their fair share of problems. When cows are sourced from multiple farms they will carry different bugs and when combined with the stress of adapting to a new system, this will often initiate many 'teething problems' in the new herd. BY LUCY GILL *BVSc, MRCVS* FRIARS MOOR VETERINARY CLINIC

When the offer of a Defra funded Herd Health Plan was made in 2007 by XLVets' Lucy Gill and Phillipa Perrett of Friars Moor Vets, Sturminster Newton, Dorset, Mark was keen to see what it could do for the herd.

Mark milks 115 cows at Cross Farm. The cows calve all year round, predominantly to AI and a bull is brought in when required. Replacement cows are now going to be home bred; the first home bred heifers calved last autumn. The average herd yield in 2008 was 8,500 litres with 4.03% butterfat and 3.28% protein. The cows are fed a ration of grass and maize silage, molasses and a high protein blend, topped up with a dairy cake in parlour.

One of Mark's main concerns at the outset of the herd health plan in 2007, was the number of cases of mastitis he was treating in the herd. Analysis of the mastitis records from the preceding 12 months showed that there had been 62 cases of mastitis/100 cows/year. A high proportion of the cases of mastitis were in fresh calvers; indeed the displayed graph shows a clear trend between the incidence of mastitis and calving rate. On advice from his vets, Mark started to collect milk samples from all new cases of mastitis in order to build up a picture of the cause of the problem.

Culture of the samples in the practice laboratory showed a predominance of *E.coli* cases, an environmental cause of mastitis. The rolling somatic cell count was 146,000. A parlour visit was made to check milking

routine, and to score teat ends, as a possible route for environmental bacteria to enter the udder. Vets, Lucy and Phillipa suspected that many cows were picking up udder infections during the dry period and then developing clinical mastitis in the first few weeks of lactation. In addition to the antibiotic dry cow tube already being used, they suggested combining it with the internal teat sealant OrbeSeal. As a physical barrier in the teat end, OrbeSeal helps to stop environmental infections penetrating the teat canal in the dry period. For well over a year now, cows have been calving which have received additional protection in the dry period from OrbeSeal. Mark has been delighted to have to treat far fewer cows for mastitis in the first few weeks of lactation.

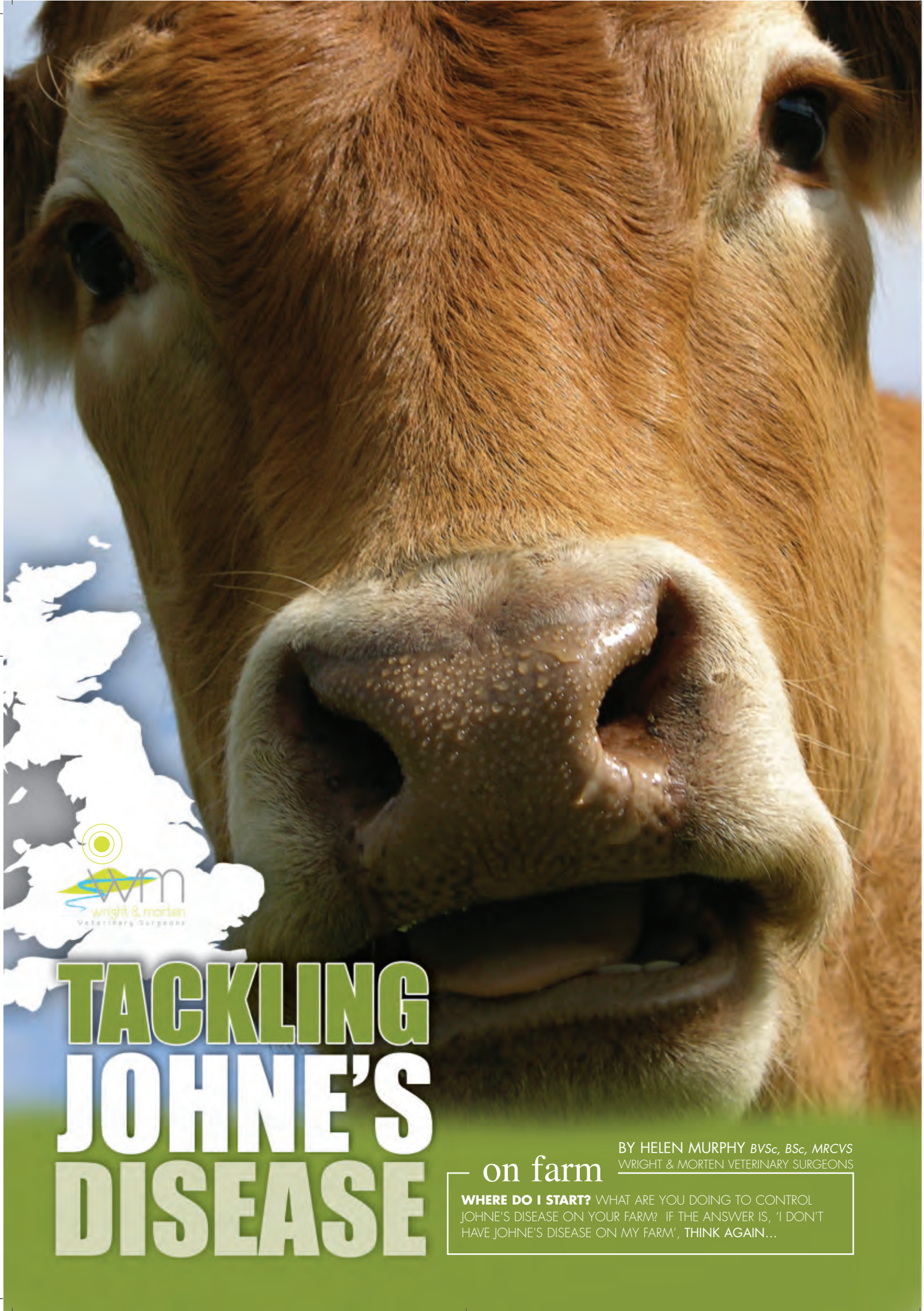
The marked reduction in clinical cases of mastitis has saved the farm a considerable amount of money. A case of mastitis in a freshly calved cow costs the farm about £145 in loss of milk and drugs alone. Taking into account the cost of OrbeSeal, the change in dry cow therapy has saved over £5,000. The second focus of the health plan was to look for the presence of infectious disease in the herd. A bulk milk sample showed a high level of leptospirosis in the herd. With potential to have marked effects on herd fertility, the vets advised that the herd should start to vaccinate for leptospirosis. Bulk milk tests, combined with blood samples from home reared heifers, showed that the herd is free of IBR and BVD. The herd is now going to remain closed, apart from a bull which will be brought in when needed for the heifers.

Mark is keen to keep the herd free of these diseases, so has any new bull's blood tested prior to mixing with the cows.

A bulk milk test also highlighted a high level of liver fluke infection. Some of the grazing for the dry cows is quite wet and would provide the ideal environment to support liver fluke, and its intermediate host, a snail. Overt signs of liver fluke infection are far less common in dairy cattle as opposed to sheep; cattle develop better immunity to the parasite. However, the 'hidden' effects of fluke infestation are important to consider in the dairy herd: reduced milk yield, reduced fertility and increased susceptibility to other disease. All the cows are now treated for fluke at drying off.

The success of the health plan at Cross Farm, formed the basis of an on farm meeting, one of a series organised by the team of farm vets at Friars Moor last summer. The meeting was made up of small group discussions, focused on the problems which had been investigated at Cross Farm.

Local farmers enjoyed sharing experiences of mastitis and infectious disease in their herds, and were able to learn, not only from the Friars Moor vets, but from listening to other farmers too.



TACKLING JOHNE'S DISEASE on farm

BY HELEN MURPHY *BVSc, BSc, MRCVS*
WRIGHT & MORTEN VETERINARY SURGEONS

WHERE DO I START? WHAT ARE YOU DOING TO CONTROL JOHNE'S DISEASE ON YOUR FARM? IF THE ANSWER IS, 'I DON'T HAVE JOHNE'S DISEASE ON MY FARM', THINK AGAIN...

Exact UK prevalence is unknown, but identification of infected animals is rapidly rising, and it is likely that around 50% of farms are affected to some degree. Johne's disease may be present for many years in a herd without being apparent, so simply not being aware of any cases means nothing. It is caused by the organism *Mycobacterium avium* subspecies *paratuberculosis* (Map), and results in chronic inflammatory enteritis, diarrhoea, wasting and death. Although the disease has been recognised for decades, it is only recently that the true extent of its prevalence and economic impact has been recognised.

In 2007, **Wright & Morten**, through the Lancashire Veterinary Association, (LVA), were given the opportunity to take part in the DEFRA farm health planning cattle initiative. The aim of this initiative was to demonstrate the benefits of farm health planning, and the LVA project was one of 27 that took place nationwide. Our focus was on the transfer of information from vet to farmer, and how this could be improved. Traditionally, meetings held by vets for farmers consist of the vet talking in a warm room, often in the evening, whilst farmers make valiant efforts to stay awake (maybe).

In this situation, even the best speaker will find it difficult to engage the whole audience, (some will be asleep), and the best listener will struggle to remember everything that was said. We wanted to try a new approach; that of the small group facilitated meeting.

The first part of the project was to train vets on facilitation techniques. In a nutshell, this really means that instead of doing all the talking, the vet would act as a guide for the group discussion. Before the meeting the facilitator, (the vet), would have in mind all the areas they wanted to cover, and would steer the discussion in such a way that this occurs. Since the attendees are led to the information rather than fed it, knowledge is shared within the group in a much more memorable and credible way.

> "The first part of the project was to train vets on facilitation techniques. In a nutshell, this really means that instead of doing all the talking, the vet would act as a guide for the group discussion."

Johne's disease was an ideal, if challenging topic for discussion. It was, and is still, an unpopular subject amongst many farmers, but I was becoming increasingly concerned that for Johne's disease, to do nothing was to make things worse. A selection of dairy and beef farmers were invited to a morning meeting, on farm, to discuss Johne's disease and formulate a plan for its control. Six farms responded positively to the invite, and three were represented on the day. Two of the farms represented had existing data regarding Johne's disease on their farms. They felt they were taking steps to control it but could do more. The third farm had not done any testing to date but had suspected clinical Johne's disease. Everyone present had some existing knowledge and interest in the subject, and a desire to plan for improvement on their farm.

Firstly, the expectations of the group were explored. The main outcomes hoped for by the 8 people present were improved knowledge of the source and transmission of infection, and a protocol and time scale for eradication. The group then worked through the causes, signs and diagnosis of Johne's disease, moving on to the routes of spread and finally formulating a control plan for one of the farms represented on the day.

As with anything, knowledge is power, and knowledge of the extent of any disease on farm is the one piece of information which will help you most in its control. Someone who knows that they do have Johne's disease on their farm is arguably in a much better position than someone who thinks they don't have it. To think you don't have it when in fact, you do, prevents you from taking the necessary steps to safeguard the future health of your herd.

Cattle are most commonly infected with paratuberculosis as young calves, by ingesting Map either in colostrum/milk or faecal contamination of teats and bedding. During the first hours of life the gut is relatively porous to allow the absorption of maternal antibodies. Unfortunately, this allows the Map organisms to be absorbed easily too, so the protection of these calves from possible sources of infection is of paramount importance. This means that Johne's infected cows should not enter the calving pen, but be calved in isolation to prevent their faeces contaminating the calving environment. Calves born to Johne's infected cows can be 'snatch calved', ie removed from the dam at birth, and tube/bottle fed colostrum from a non-infected cow. After this vital first 24hr period, calves remain at increased risk of infection for at least the first 12 weeks of life, and are then at gradually reducing risk until age-related resistance develops as adults. Segregation of calves from older stock is therefore vital to reduce the risk of faecal contamination during this period. Feeding whole milk to calves is another risk factor, as only one infected animal in the tank/waste milk could infect an entire batch of calves.

Powdered milk is a safer alternative, or pasteurisation could be considered in order to kill Map organisms before milk is fed to the calves. For older calves out grazing, slurry is another potential source of infection, as Map can survive in slurry for at least 12 months. Spreading slurry on ground intended for youngstock grazing should therefore be avoided if at all possible. Other possible sources of infection include other species of animal such as sheep and rabbits, contaminated watercourses and rarely, adult to adult transmission.

Testing is the all important first step on the path to disease control. Paratuberculosis is a notoriously difficult disease to diagnose. This is due to its long incubation period, typically 2-6 years, and the intermittent shedding by infected animals. Because of this, false negatives are common and a single negative test can never be taken to mean the animal is not infected. A positive test however, can be trusted. Therefore if a cow tests positive, she is positive, even if she has negative test results in the future. The possible exception to this is that paratuberculosis is closely related to tuberculosis, (TB), so false positives may occasionally occur in the wake of a TB test. To avoid this it is advisable not to test for Johne's disease within 6-8 weeks of a TB test. Map shedding is increased at the beginning and end of lactation, so targeting testing at these times will improve accuracy. For dairy cattle, the milk ELISA test is a convenient and economical method, particularly for anyone who is already milk recording. Bulk milk ELISAs are also an option. Although this is not an accurate test by any means, it is a useful starting point which will give some indication of the extent of infection on farm. For beef cattle, blood ELISAs are the usual method of diagnosis. Again, all cattle need to be tested frequently in order to maximise accuracy of results. Testing is usually targeted at animals over 2 years of age, and can be extended to younger animals if a high level of infection is found within the adult herd. Diagnosis can also be made by faecal smears, where the faeces are examined under the microscope for evidence of Map organisms. This method is useful for the individual thin, scouring animal, as other diagnostics, (eg liver fluke, gut worms, salmonella), can be performed on the same sample. The gold standard test is faecal culture. However this is rarely used on a herd level due to the prohibitive expense and long delay before results are returned.

So if testing is this difficult, why bother?

It has been estimated that a 100 cow dairy herd with Johne's disease presence on farm is losing around £2600/year, (which may be considered a massive underestimation by anyone currently suffering losses from paratuberculosis). This is representative of a 25% reduction in milk yield in the final lactation of infected cows, 10% in their penultimate lactation, and 5% in the one before that; an increased culling rate; an increased incidence of other disease and more barren cows. In a 100 cow beef herd these losses are estimated at £1600/year. In this case the reduced milk yields result in decreased calf growth rates, in addition to the increased culling rate, increased incidence of other disease, and more barren cows.

The SAC and Biobest both run Johne's Accreditation schemes, whereby on completion of consecutive clear tests herds can become accredited free from Johne's disease. This has obvious market advantages for the sale of cattle, and as more people become aware of the damaging economic effects of paratuberculosis, accredited animals will be even more attractive to purchasers. There are also possible human health implications. Crohn's disease in humans is closely related to Johne's disease, and Map has been found in the intestines of around 50% of Crohn's sufferers. There is currently no evidence of a link between the two diseases, but if such a link were to be made in the future, Johne's accreditation may become a necessity. Accreditation schemes are based on the principles of testing and culling any positive cases. A herd which has no positive cases on the first test will have a second test 12 months later, and if this is also clear, accreditation is awarded. This is then maintained on the basis of an annual test with no positive cases. If however on the first test say 3 positive animals are found, these animals (and possibly their offspring) are culled, and 2 further clear annual tests will be needed for accreditation to be awarded. If 50 positive animals are found on the first test, it is not likely to be practical or economic to cull all of these, so a control/damage limitation programme will need to be put in place. For beef animals, one possibility in this scenario is to run an infected and an uninfected herd. Replacements would be kept only from the uninfected herd, and the infected herd would be phased out over the lifetime of the cattle within it.

For many herds, eradication of Johne's disease will not be realistic, at least in the short term, and other control measures will need to be implemented. Once a whole herd test has been carried out, as many positive animals as possible should be culled immediately. In practice, this often means the ones who are also barren, 3-quartered or lame. The next step is to identify the remaining infected animals in an obvious way, such as a coloured ear tag. This is to ensure that these animals are kept out of the calving pen or other youngstock areas, and their milk is not fed to calves. Infected cows that are not culled immediately may be allowed to complete the lactation but should not be put back in calf.

Another option in the management of paratuberculosis is the use of vaccination. Unlike most vaccines this does not prevent the disease, but it does delay the onset of clinical signs and reduce Map shedding. This is particularly appropriate for cases where high numbers of clinical cases are being seen. Once a vaccination programme has begun, there is no way of monitoring the extent of paratuberculosis on farm, as a vaccinated or an infected animal would both test positive for Johne's disease. For this reason vaccination would not be appropriate for anyone wishing to embark on an eradication programme. Of the three main methods, (test and cull, management changes and vaccination), it is the management changes which have been shown to reduce the rate of spread the most. This reinforces the importance of calf management, whichever strategy is chosen. Our group formulated and agreed a control plan for Johne's disease on one of the farms represented. This was a 150 cow dairy farm, a closed herd who had identified 10 Johne's positive animals by milk testing over the last 2 years. Whilst eradication was attractive, it was unlikely to be achievable in the near future due to the number of animals identified.

> "The group worked its way through the problems involved in tackling Johne's disease on farm, took ownership of the information and created the control plan... and no one fell asleep."

It is very easy to become disheartened in tackling Johne's disease. It is an often underestimated problem, which can be unsatisfying to tackle as there is no quick fix, and no quick method of measuring progress. It is a long-term project, and an investment in the future health of your herd. What we achieved in our meeting, and in follow-up discussions since, was to enthuse a group of people to tackle the problem on their farms now, so that in a decade's time measurable improvement will have occurred. All were prepared to make changes in order to reduce the rate of spread on their farm. All saw limitations in the amount of changes that could be made, but accepted that the greater the extent of change, the greater the effect. What we learnt as vets and communicators, was that the small group discussion was an infinitely better method of information transfer.

control Plan...

1. Increase the frequency of testing to 4 times a year.
2. Identify infected animals with a purple ear tag, and cull as many as can be economically justified immediately.
3. Stop pooling colostrum, and begin freezing colostrum from uninfected cows.
4. Calve any infected animals in the isolation pen. Snatch the calves at birth and feed colostrum from an uninfected cow.
5. Feed powdered milk, not waste milk to calves.
6. Keep calves and youngstock away from adults.
7. Spread as much slurry as possible on maize/wholecrop ground.
8. Maintain a closed herd, or buy from Johne's accredited herds.
9. Look to the future - work towards accreditation over the next decade, or even two.

"For many herds, eradication of Johne's disease will not be realistic, at least in the short term, and other control measures will need to be implemented."

CLOSTRIDIAL DISEASES *in cattle...*

Charlie Lambert *BVSc, MRCVS* Lambert, Leonard & May

Picture the scene - wild and windy changeable weather with stock outside. One morning a yearling heifer is stone dead under a hedge. Could it be lightening? What else could affect one of the strongest beasts in the group? Charlie Lambert takes us through one major cause of sudden death in livestock.

DURING 2006 the average numbers of dead-stock per farm registered with the fallen stock scheme was five young cattle and six sheep. A further 207,000 adult cattle were screened for BSE after having been collected as fallen stock. It's a sad truth that where there's livestock there will always be dead-stock, but it would be wrong to assume nothing can be done to reduce these losses.

A massively underestimated cause of sudden deaths is one of the oldest bacteria of them all - clostridia. They are spread throughout the world and take the lives of cattle, sheep and most other farm livestock on a daily basis.

THE LIFE CYCLE

Clostridia are a family of bacteria that have a rather unusual method of surviving when conditions don't suit them. They form protective spores to survive in soil and within body tissues and only emerge when conditions are right for their rapid growth.

Clostridia are closely related to another spore forming family of bacteria that include the deadly cause of Anthrax. Spores of Bacillus anthracis have been shown to survive for several decades in soil.

In order to emerge from their spores and start multiplying, most forms of clostridial bacteria prefer a reduction in oxygen supply. This sometimes occurs when cattle are bruised or injured and when clostridia are present in the region of bruised tissue they rapidly multiply, producing potent and dangerous toxins. But it's the toxins that cause real damage by destroying muscle tissues. These potent neurotoxins cause the animal's muscles to become paralysed and stiff. In cattle the tail is usually raised a little and often the animal can't feed itself due to the classic lock-jaw effect on the cheek muscles.

THE DISEASES

There are lots of different diseases caused by the various combinations of clostridial toxins - braxy, blackleg, and botulism. Anyone who has been unfortunate enough to have heard these disease names before is also likely to know they all kill quickly.

One of the mysteries of the clostridial family remains how to predict when a problem might occur. Certainly when animals are grazing tightly they are likely to consume

Cattle and sheep images kindly supplied by Intervet Schering-Plough.

> "Wherever livestock are farmed it's important to consider the risk of clostridial infection and disease. With replacement animals being a costly consequence, deaths of any productive animal will significantly affect farm profits." Charlie Lambert

some soil, so risk increases. Deep wounds in poorly oxygenated areas and internal damage such as ulcers in the gut can also allow clostridia to multiply and cause further damage.

RISK FACTORS

Clearly not many of these risk factors can be controlled. However it is worth bearing in mind that common procedures such as disbudding, castration and vasectomising bulls or tups can open up an animal to the threat of infection with clostridia. Also sudden feed changes that may lead to rumen acidosis could also be a problem.

CONTROL OF CLOSTRIDIAL DISEASES

Wherever livestock are farmed it's important to consider the risk of clostridial infection and disease. With replacement animals being a costly consequence, deaths of any productive animal will significantly affect farm profits. Nowadays there is the additional hassle and cost of disposal of carcasses. Any risk associated with surgery can be reduced through use of antibiotics.

A quick dose of long-acting penicillin after any surgery that breaches the skin adds a small amount to the cost of a castration or vasectomising job, but could be a sensible investment in the long run. Longer term control involves the use of one of the range of clostridial vaccines. Almost all clostridial vaccines contain a mixture of several components, sometimes including elements of the toxins themselves. Multicomponent vaccines are common use in breeding sheep, but uptake of vaccination for cattle is much less common. Only a small percentage of our farmers think about the importance of clostridal vaccines. Yet every year several lose stock to blackleg in particular.

VACCINE DEVELOPMENT

Recent developments in vaccine technology have led to the introduction of a new 10-way vaccine that delivers potent protection in an exceptionally small dose. For cattle producers this product represents a reliable risk control strategy and seems to make good commercial sense. You have to look at the cost of regular vaccination and compare that with how many cattle may be lost through time.

Saving one finished beast will pay for 500 courses of vaccine and that's not including the hassle and cost of disposal of dead stock.

So next time an animal is unexpectedly found lying dead appearing to have blown up quickly or started to decompose rather fast, then consider if clostridia could be involved. In New Zealand the grass-based systems make clostridial vaccination just as common in cattle as in sheep and with the value of cattle rising steadily in this country it must surely be time to consider investing just a little more time and money to secure herds for the future.

Below (l to r) XLVets' Janet Blikmans, nutritionist William Waterfield and herdsman Mick Rae regularly review Farm Health Planning.

Bottom Farm health planning has made herd management better structured and more enjoyable, says Helen Browning.

FARM HEALTH PLANNING

Eastbrook Farm

Developing practical Farm Health Planning has led to a well thought-out approach to managing an organic dairy herd, according to producer Helen Browning. The 6,500 litre milking herd comprises 170 Holstein Friesians plus followers at Eastbrook Farm, Bishopstone in Wiltshire. Dairy cows form an important part of a mixed organic farming system producing milk, beef, veal, sheep, pigs and poultry across 1,300 acres. Produce is sold through a variety of outlets and direct to the consumers.

Developing robust Farm Health Planning with Helen Browning and herdsman Mick Rae, involved expert advice from XLVet's Janet Blikmans of Swindon-based Drove Veterinary Hospital with nutritional advice from William Waterfield of The Farm Consultancy Group. Other key farm staff are involved at all the meetings.

'We are eliminating clinical lameness - cows showing a locomotion score of 4.0' *Janet Blikmans*

The group identified a number of core health issues to tackle: lameness, high Somatic Cell Counts (SCC), fertility and Johne's disease.

Proactive approach

Helen Browning points out that prior to the 18-month DEFRA sponsored Wessex Positive Health Partnership project starting, the dairy herd was regularly scrutinised during meetings with members of the XLVets' Drove Veterinary Hospital.

'A major benefit of the project has been a renewed focus of each aspect of herd management including alterations to buildings and yards. We've benefited from more dedicated time given by Janet who completes a lot of research before our meetings. Her suggestions and protocols have made a huge difference,' she says.

'Our mindset has altered from using veterinary advice reactively to a more proactive approach, by trying to prevent health issues arising. This is particularly important in an organic system. As a group we use the meetings to look ahead and meet achievable targets.'

'The Farm Health Project has allowed us to take a logical approach. It's better structured and herd management is more enjoyable,' Mrs Browning admits.

Herdsman Mick Rae agrees. Improving the health of the herd has led to far greater job satisfaction. 'Devising a plan and sticking to it is a far better policy. Priority is given to key concerns. We're already seeing a benefit in the bulk milk tank through higher milk yields and improved quality which all adds to the bottom line.'

LAMENESS

Financial calculations showed that lameness was costing the herd around £19,500 per 100 cows per year.

Almost 3 out of every 10 cows showed signs of lameness at the start of a study of the herd in early 2007 using locomotion scoring - a visual assessment of a cow's ability to walk properly.

'Cows are scored on a scale of 1.0 to 5.0, where a score of 1.0 reflects a cow that walks normally and a score of 5.0 reflects a cow that is three-legged lame,' explains XLVets' Janet Blikmans.

Using the results, the Farm Health Project set out a robust foot care programme. Investigations showed that walking long distances, loose stones on cow tracks and in gateways plus uncomfortable cubicles were the main culprits leading to sole ulcers and white line disease. Sole ulcers alone were costing £355 per case or £8,351 per 100 cows while it was calculated that white line disease added a further £9,326 cost per 100 cows.

Lame feet are now treated more promptly by herdsman Mick Rae who regularly carries out locomotion scoring of the herd as cows leave the parlour. He also trims cows' feet in between monthly visits made by a local foot trimmer. A new foot bath was installed by the exit to the parlour and the entire herd is run through the bath regularly.

Furthermore, cow tracks and field gateways have been improved while repairs and grooving have been made to concrete collecting yards. Rubber mats were also placed in cubicle buildings and repairs made to cubicle sides. Each cow place is also regularly bedded with straw and limed.

A feed additive has also been added to the Total Mixed Ration to help harden cow's feet.

This dogged approach and hard work has paid off. Lameness at Eastbrook Farm has been massively reduced. Results of locomotion scoring last autumn revealed a much lower incidence, which has delighted Janet Blikmans.

'The concentrated effort is paying off. While it is virtually impossible to have no lameness in a herd we are eliminating clinical lameness - cows showing a locomotion score of 4.0 and 5.0,' she says.

'Even after the total cost for all preventative measures was taken into account the net saving from lowering lameness was £1,329 per 100 cows,' adds Miss Blikmans.

Top Right Improved cow comfort has helped improve overall herd health and reduce lameness in the herd.

Above Regular Farm Health Planning meetings at Eastbrook Farm are paying dividends.

JANET BLIKMANS DROVE VETERINARY HOSPITAL **HELEN BROWNING** EASTBROOK FARM

Better Fertility

Prior to the project starting, milk yield was being affected by extended calving intervals, which had crept up to 430 days during summer 2007. Janet Blikmans calculated that the excess 15-day interval above a 415 day target was costing the Eastbrook herd some £12,500 each year. Increased services to conception also added further costs.

To help improve fertility, cows are now served much earlier after calving. A protocol was drawn up to include:

- Rectal manipulation to stimulate cycling activity at 42 days post calving
- Checking of the uterus and ovaries at 65 days post calving
- Homeopathic treatments are used where necessary
- Where appropriate, hormone use at 85 days post calving
- All farm staff recording bulling cows
- Implementing the use of oestrous detection aids

The preventative costs totalled some £1,317 per 100 cows resulting in an overall cost saving of just over £6,000 per 100 cows annually.

Fertility improvements recorded over the 18 month period showed that the first service submission rate rose by 10% while typically, calving to conception is 140 days.

'Progress is being made and while we have more to do, Farm Health Planning has laid out achievable targets over the next 12 months. These include a 120-day calving to conception rate and a lowering of the number of services per conception from 3 to 2,' says Miss Blikmans.

Activity meters have also been purchased and will be used in conjunction with estralert stickers using a colour code system which all staff can follow easily.

IMPROVING MILK QUALITY

A further success of Farm Health Planning has been a reduction of the total SCC by 40,000 cells/ml down to 220,000 cells/ml.

Because of the restraints of antibiotic use in the organic herd, the team focused their attention on environmental effects and changes were made to the milking routine.

This has also led to clinical mastitis falling to 30 cases per 100 cows over a 12 month period.

Herdsman Mick Rae follows a rigid programme of pre-milking teat wiping with individual wipes and post udder dipping. The use of medicated wipes as well as disinfecting hands and clusters in between milking cows with known infection and high cell counts, were some suggestions made in the Plan.

'Having a milking routine that everyone can follow at every milking is very important,' says Mr Rae. 'The project revealed how fore-stripping is a critical step in the production of quality milk. I really concentrate on this, removing a lot of milk from each teat. That way I can see abnormal milk quickly and take appropriate action.' Straw bedded yards for dry cows were also a focus for the group as were the cubicle sheds. Adding straw daily and applying lime to cubicles is helping reduce environmental infection.

For every 100,000 increase of bulk tank SCC, milk yields fall by 1.5%, the group calculated. Therefore, reducing mastitis and improving milk quality effectively adds a further £1,368 per year (£8 per cow) to the bottom line.

Janet Blikmans produces a monthly cell count report based on milk records to flag up potential problem cows. 'Mastitis is both expensive and frustrating. Understanding potential causes and proactively taking action to minimise them will help limit the problem.'

IMPROVED BIOSECURITY

Blood testing through Farm Health Planning helped avert a potential disaster when Johne's disease - an infectious wasting condition of cattle - was found present in five animals.

'It's good policy to carry out periodic blood testing for major diseases like Johne's disease, IBR (Infectious bovine rhinotracheitis), BVD (Bovine Viral Diarrhoea) and Leptospirosis, this cannot be over-emphasised,' stresses Janet Blikmans.

'Without monitoring you may not know that Johne's disease is present in a herd. It can reduce milk yields by up to 25% and more importantly kill animals. What's more, the entire health status of a herd is compromised.'

Animals at Eastbrook Farm that test positive for the disease are culled and all cows over two years old will be tested annually. These measures form part of a Johne's disease prevention plan drawn up by Miss Blikmans.

Purchased animals will also be tested before they reach the farm and undergo strict quarantine before entering the herd.

Below Leaving the parlour, the herd is regularly put through a foot bath to help tackle lameness.

SHARING KNOWLEDGE - FHP RESULTS...

Local farmers attended an open meeting to gain a far clearer understanding of Farm Health Planning to improve health, welfare and productivity.

The Drove/XLVets organised meeting aimed to show the difference between herd health planning and farm assurance. The audience were informed about the results of the Eastbrook herd and were left in no doubt about the number of benefits of working to a comprehensive plan.

Eastbrook Farm Facts

- Large Multiple Organic Farm Enterprise
- 180 cows + followers
- 6,500 litres
- Cubicle housed with dry cows on straw yards
- TMR fed

Farm Health Planning Results

- Notable cost benefits
- Huge lameness reduction
- Lower BMSCC
- New milking routine
- Fertility rates improving
- Tighter biosecurity - tackled Johne's disease

£6,000

Savings brought about by improved fertility

1.5%

The milk yield reduction for every 100,000 BMSCC increase

Above Regularly adding straw and lime to cubicles has helped lower overall mastitis infection.

Left Red spells danger! Cows with clinical mastitis are highlighted for special treatment.

£19,500

The cost of lameness before the Farm Health Planning project began

40,000 cells/ml

The fall in BMSCC resulting from management changes

Left Repairing and grooving concrete collecting yards has contributed to an overall lameness reduction.

Below All the effort is paying off. XLVets' Andy Adler (right) credits herdsman Dave Snowden and farm manager Mike Green for being open-minded and putting his plans into action.

Bottom Even for a herd housed on straw, mastitis cases are now down to single figures.

High House Farm

FARM HEALTH PLANNING

A return of almost £6 for every £1 spent on dairy herd health has been achieved at High House Farm near Poxwell through pro-active herd health planning. Vastly improved mastitis control and enhanced herd fertility has added around £26,000 to the bottom line.

Practical measures and achievable targets were laid out for the Dorset-based herd through a comprehensive 12-month Defra-funded Farm Health Plan project. This was created for the farm's staff using the expert advice of XLVets' Andy Adler of Dorchester-based Southfield Veterinary Centre. It focused on improving weaknesses within the herd and made slight alterations to the milking, bedding and feeding routines.

SIGNIFICANT MASTITIS CONTROL

Prior to the start of the Farm Health Plan the herd was experiencing high levels of mastitis infection.

The 'wheels fell off', admits herdsman Dave Snowden. 'It felt like we were pouring more milk down the drain than was being added to the bulk tank. We realised that we needed more veterinary help and advice.'

XLVets' Andy Adler comments: 'Records showed most mastitis was occurring at calving time so we concentrated on reducing the environmental challenge to dry and fresh calved cows.'

The Farm Health Plan made it compulsory to dry off each cow with non antibiotic OrbeSeal tubes at a cost of £6.60 per cow, while high Somatic Cell Count (SCC) cows received antibiotic treatment as well.

Better recording was initiated to ensure all mastitis infection was noted and the information was inputted into the farm's computer for all to access. A monthly cell count summary, based on data from NMR herd companion, allowed monitoring for the vet and dairyman as well as the owner with treatment advice produced by Mr Adler.

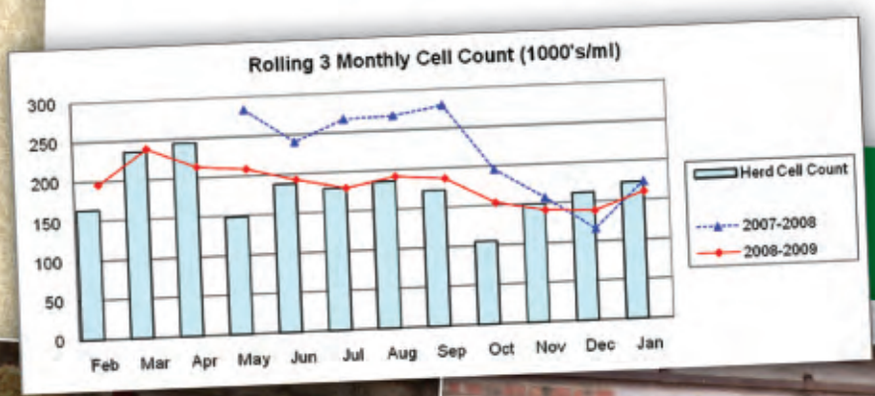
With the entire herd kept on straw bedding, the frequency of adding straw was upped while yards were cleaned out every four weeks adding just £800 to annual production costs.

In addition, the milking routine was amended to include pre-spraying cow teats to complement the existing practice of post-spraying. A new pump and spray system costing just £120 was installed with around £1,250 of disinfectant used each year.

Once cow numbers are inputted for feeding, Dave Snowden concentrates on five cows at a time making sure teats are sprayed thoroughly and leaving at least 10 seconds for the solution to dry before milking.

Noteworthy figures included a drop of 20 mastitis cases per 100 cows saving £2,000. Now just four cases of mastitis a month per 150 cows are recorded. Saleable milk yield increased by 80,000 litres adding an extra £17,000 to the milk cheque while fewer infections have led to milk quality bonuses of almost £7,000. At the start of the project, Bulk Milk Somatic Cell Count (BMSCC) for the herd peaked at 280,000 cells/ml. Twelve months on, BMSCC is consistently running below 160,000 cells/ml (see Fig. 1).

The figures are dramatic and gave everyone involved a much needed boost at a time when plans where being drawn up to expand the herd, explains Andy Adler. 'I can give advice but it's the guys on the ground, who are expected to make things happen.'



(Left) Figure 1 The rolling cell count for High House Farm.
Below Friesian cows are being bred for the grass-based system.
Below Left Improved fertility and healthy calves are a significant part of plans to increase herd size.

'Credit should go to Dave for being open-minded and making the changes. For the herd owner, it provided added confidence to make further investment in the business.'

Cow numbers are planned to reach 200 by the close of 2009 and a new cubicle building is being added. Current herd size is 150 producing 7,700 litres at 4% butterfat and 3.2% protein across a 700-acre all grassland system - land shared with a separate 100-cow suckler herd.

Dave Snowden says the plan to reduce mastitis has worked marvellously well.

'Looking back, the high number of mastitis cases was very demoralising and time wise, stretched us to the limit. With Andy's help and a change of focus we're moving forward.

'We're now down to single cases of mastitis, which is very good considering all cows are kept on straw. This has freed up more time to concentrate on the herd, particularly important as we're moving to more of a grass-based system to increase milk from grass.'

IMPROVED FERTILITY

Breeding decisions have seen a switch from Holstein to Friesian bloodlines to produce a high yielding compact cow more suited to extended grazing.

To produce the numbers of home-bred cows needed as part of the expansion, fertility levels needed to be improved. First service conception rates were running at 27%, partly as a result of a negative-energy-balance (NEB) in calving cows. This year this has increased to 35%.

The use of dry cow rolls and changing the dry cow group management were recommended to counteract the NEB. What's more, serving cows as close to 42 days after calving has been recommended to achieve a higher submission rate. Regular pregnancy diagnosis is now identifying cows that have been missed more quickly.

Oestrus detectors are now also placed on all cows post 42-days calving and are re-applied 7 to 14 days after service with staff reporting improved signs of bulling.

'Fertility levels should also increase with tighter screening of bought-in bulls,' explains Mr Adler.

'Once on the farm a new bull will be quarantined for a month and given a full clinical examination of external and internal sexual organs. Testicle size is measured and semen samples will be tested. Foot care treatments will be carried out before the breeding season.

'While there is still more work to do, conception rates have improved. Overall the cost benefits to the herd from improved fertility is some £5,400 already,' he adds.

MILK FEVER

Previously the herdsman put up with a 20% incidence in milk fever - low blood calcium. This has been reduced to 5% or less by adding magnesium into the water and not accepting milk fever as 'something that always happens'.

'While milk fever is fairly easy to treat using intravenous calcium injection, the real problem is that metabolic disorder predisposes cows to other health problems,' explains Andy Adler.

Prevention was provided by adding magnesium chloride to cow troughs. Particular focus was placed on pre-calving cows which received 60 grammes of magnesium daily. Dry cows feed rations have also been improved.

Dave Snowden remembers a time when he and his staff would need to walk through the herd carrying buckets of hot water and calcium to attend to a high number of cows suffering from milk fever at calving. 'There's no fun in having to react to problems. Preventing milk fever has freed up lots more time for other management duties,' he says.

Farm manager, Mike Green is pleased with the results of the Farm Animal Health project. 'We've all benefited from being able to step back and look at the business using expert help. Paying for first-rate help and advice is worthwhile,' he says.

The farm team are determined to keep the momentum going in the run up to Dave Snowden's retirement after 35 years at High House Farm. He will be replaced by Mark Goringe who is currently working on the farm for six months as part of a gradual hand-over.

'Due to herd expansion, the full impact of improved herd health will not be felt until 2010. While vet costs have risen by 46%, the financial benefits of working to a vigorous Farm Health Plan are already showing benefits,' says Andy Adler.

Below (l to r) Retiring herdsman Dave Snowden, replacement herdsman, Mark Goringe, farm manager Mike Green and farm worker, Andy Green.

Below The Plan made it compulsory to tube all dry cows to prevent mastitis infection.

SHARING KNOWLEDGE - FHP RESULTS...

Another success of the project has been the sharing of knowledge with local farmers through an open day at High House Farm. Producers were keen to hear about management changes that had led to financial benefits of over £26,000 after costs were deducted.

Several were keen to draw up their own Farm Health Plan and work more closely with their vet following the open day, says Andy Alder.

High House Farm Facts

- 150 cows producing 7,700 litres
- Expanding to 200 cows
- Moving to more grass-based system
- Using Friesian bloodlines
- Housed on straw yards
- Investment in cubicle housing
- TMR fed plus concentrate in the parlour

Farm Health Plan Results

- Major cost benefits
- Huge mastitis reduction
- Renewed fertility focus
- Very few milk fever cases
- Better monitoring of dry cow nutrition
- More time to concentrate on management decisions
- Greater job satisfaction

£5,400
The cost savings of improved fertility

£27,000
The total cost benefits of mastitis control

1:6 cost benefit
A return of almost £6 was achieved for every £1 spent on herd health

80,000 litres
Increase in saleable milk yield resulting from management changes

HERD HEALTH PLANNING

at Lazenby Moor Farm

FERTILITY SIGNIFICANTLY IMPROVED THROUGH CHANGES TO HERD MANAGEMENT AND NUTRITION

BISHOPTON VETERINARY GROUP

Above After calving, cows are fitted with a collar and transponder which records their activity and this is used to assess when they are in oestrus.

Right Maintaining good herd health at Lazenby Moor Farm is a team approach for Robert Graham (left) and Bishopton Vet's Jonathan Statham (right).

Vet Jonathan Statham of Bishopton Vet Group has been working with Yorkshire dairy farmer Robert Graham, for many years, to ensure good levels of herd health at Lazenby Moor Farm through the practice's Dairy Herd Health Scheme.

Two years ago, following an increase in herd size and the installation of new cubicles, a focus was put on to improving herd fertility. Jonathan explains: 'Poor heat detection of returns had already been identified as a major issue through the farm's InterHerd analysis. Then with the larger herd size it had become more difficult for Robert and his staff to see when cows were coming on heat.

'It's important, with health planning to identify the areas for improvement which are going to have the most impact. A health review identified there was plenty of potential to improve performance through making changes to improve fertility.'

FOCUSING ON FERTILITY

One of the first changes made was to increase the frequency of Jonathan's fertility visits from monthly, to every three weeks.

'Then we consciously moved from pregnancy diagnosis at 45-50 days with manual palpation, to ultrasound scanning of cows at 28 days,' explains Jonathan. 'This meant that if they were 'empty' we could serve them well before the 6-week return and reduce the number of 'days open' with a significant financial return of approximately £4/day.'

Robert adds: 'This did allow us to identify empty cows sooner, but highlighted there were far too many cows that we thought were in-calf, but weren't. But at first, we didn't know why this was.'

A key factor in improving herd fertility was boosting energy levels in the diet by switching to a predominantly maize-based forage component.

IMPROVING HERD NUTRITION

Investigations were made into the quality of nutrition that the herd was receiving. Jonathan explains: 'If cows are nutritionally challenged and not receiving sufficient levels of energy levels this results in poor oestrus expression, or suboestrus.' Using nutritional monitoring of milk parameters such as protein and fat levels as well as metabolic profiling of blood samples - all available through Bishopton's health scheme - a shortfall in herd energy status was confirmed.

After discussions with Jonathan and several nutritional advisors, Robert made the decision to boost energy levels by moving from a predominantly grass-based forage diet to a maize silage one. Maize had been grown on the farm for many years. Typically the forage component of the milking ration was 30:70 maize:grass silage, but now Robert wanted to reverse this to a 70:30 ratio.

Some dramatic changes in forage and grassland practice were needed to achieve this, as more maize would need to be grown. So now, as usual, Robert sows most of his maize at the end of April. Then in addition, he takes just one cut of silage around mid-May, and then ploughs up this grassland and sows extra maize. He is now growing enough maize for it to be the main forage component of the rations and also for buffer feeding through the summer.

Jonathan adds: 'Summer grazing was identified as another potential weakness, with unpredictable feed balance and dry matter intakes, hence the decision to buffer feed maize as a further contribution to improving energy levels and consequent fertility.'

Today's milking cow ration has a forage base of 70:20:10 of maize:grass:wholecrop wheat, together with soyabean meal, rapeseed meal, and caustic wheat. Rations for the high yielding group additionally include sugar beet pulp, ground wheat and urea.

EARLIER SERVICES, AND MORE OF THEM

The next issue to tackle was to get cows in calf sooner after calving. To do this, Robert started serving them earlier. The voluntary waiting period was reduced from 45-50 days down to 38-40 days. Jonathan would examine fresh cows during his fertility visits and make sure they were free of endometritis and fit to serve. Robert explains: 'So now, if we see a cow on heat at 40 days, then we serve her, rather than wait for the next cycle. This has proven very successful and we've reduced the days to first service from 73 down to around 63.'

The next tactic to improving fertility was to increase the submission rates by serving more cows. 'If we have any suspicion that a cow is on heat, then we AI her anyway, albeit with a cheaper semen straw,' explains Robert. 'After all, if you don't bull them then they can't get in calf.'

BETTER HEAT DETECTION

The third change of practice, in the pursuit of better fertility was to adopt measures to improve the chances of a heat being noticed.

Robert was of the opinion that he was presenting too many cows to Jonathan on his routine fertility visits. These cows had been served, and since they had not returned to heat, it was assumed they were in-calf. However other possibilities were: they had reabsorbed the foetus, they were not showing heat, or they were anoestrus (and not cycling at all).

Jonathan explains: 'To increase submission rates, better heat detection was needed. This is made easier if heat expression is more obvious. Through the dietary and management changes we had removed many of the root causes which depress heat expression, such as lameness, low energy status, and social stress. Robert had the option to reduce reliance on observation of behavioural signs of oestrus by additionally using either milk progesterone testing or devices which monitor cow activity.

Robert continues: 'We debated several methods to improve heat observation and in the end opted for Heatime transponders. This system is based on the fact that cows on heat will move around more. After calving they are fitted with a collar with a transponder which measures movement, and calculates an average for each cow. When the cow comes on heat, she becomes more active and the information is relayed to a computer system in the office, which is checked twice a day.'

Robert and his staff, Richard Heaton and David Green, still continue to watch out for cows on heat, however, Robert adds: 'Having this system as an extra backup means we've been able to catch, perhaps as many as 3 out of every 10 cows for which we haven't seen any signs, but which have been identified through the Heatime system.

FERTILITY IMPROVEMENT THROUGH CHANGES TO HERD MANAGEMENT AND NUTRITION

LAZENBY MOOR FARM **Jonathan Statham** Bishopton Veterinary Group, Yorkshire

'Before Heatime, we would present, say, 40 cows. Of these, 10 would not have been seen in heat. The rest would be for pregnancy diagnosing and often only around 40% of these would be pregnant.'

'Since installing this heat detection last September, we are down to presenting around 32 cows with only two or three with no signs of bulling. And probably 75% will be pregnant.'

He is keen to point out that although this technology is proving a very useful management tool, it's the change in diet that's been the major factor in improving his herd's fertility. 'The higher energy diet means cows are expressing their heats more, and the risk of re-absorption of foetuses is also reduced,' he adds.

A year ago, Robert's calving index was 406 days, today it is 10 days shorter at 396 - with each day estimated to cost £4/cow, that's a saving of £40/cow in the herd over the past year.

DRY COW MANAGEMENT

Jonathan explains: 'When a cow approaches calving, and for about 10 days afterwards, her soft tissues loosen. If she spends too much time standing on concrete and/or not lying down then she may be predisposed to lameness later in lactation.'

'So since lameness is linked to fertility and energy issues, then it's important to consider cow comfort and health around calving, and be aware that dry cow management also needs attention.'

At Lazenby Moor Farm, dry cows are brought into a shed and loose-housed on straw at two weeks prior to calving. Here, they have more room and more trough space, and have the extra comfort of being on straw bedding and not sawdust or concrete.

The cows stay on the straw until they calve in the calving boxes, after which they return for a further 2-3 weeks post-calving. This reduces the stress on the cow around calving and significantly reduces the risk of metabolic disorders in the first 30 days.

Jonathan explains: 'Reducing stress factors - social stress, dietary changes, stocking density helps reduce the likelihood of metabolic disorders occurring. For example LDAs are the consequence of a rumen that's not full, and can occur when, for example, a cow is being bullied at the feed trough and not being allowed to eat.

'The reduction in grass silage level in the diet has been another positive change as it contains high levels of potassium which can lead to metabolic problems like milk fevers.'

LESS LAMENESS

Lameness can be another root cause of poor fertility, depressing dry matter intakes. Prior to the current focus on fertility, Robert had put a priority on reducing the lameness in his herd - identifying and recording cases and mobility scoring the herd.

Working with Jonathan, he established that sole ulcers were the predominant cause of hoof problems on the farm. The herd now receives visits every six weeks from a foot-trimmer, regular footbathing and also extra biotin in the diet. This has paid off and there are now only 3 lame cows in the 180-strong herd.

On the subject of herd health planning Robert adds: 'As a business, the situation is continually evolving and priorities change with time, hence the reasons why we were concentrating on improving lameness but then switched to a focus on fertility.'

'The benefit of enlisting outside help is that you get a fresh and independent view. From someone who sees things you might not always see yourself.'

STEPS TO BETTER FERTILITY

- More frequent vet visits
- PDing at 28 days with ultrasound scanner
- Higher energy rations (more maize)
- Voluntary waiting period reduced to 38-40 days
- Increased submission rates
- Additional technology to aid heat detection
- Attention to dry cow management

The Herdsman's Certificate

Robert Graham is the farmer representative for the Herdsman's Certificate, a training programme delivered by RAFT (Ripon Agricultural and Farmer Training) as part of the 'Landskills' programme, managed by Lantra. The Herdsman's Certificate is a nationwide XLVets initiative.

RAFT

Lantra

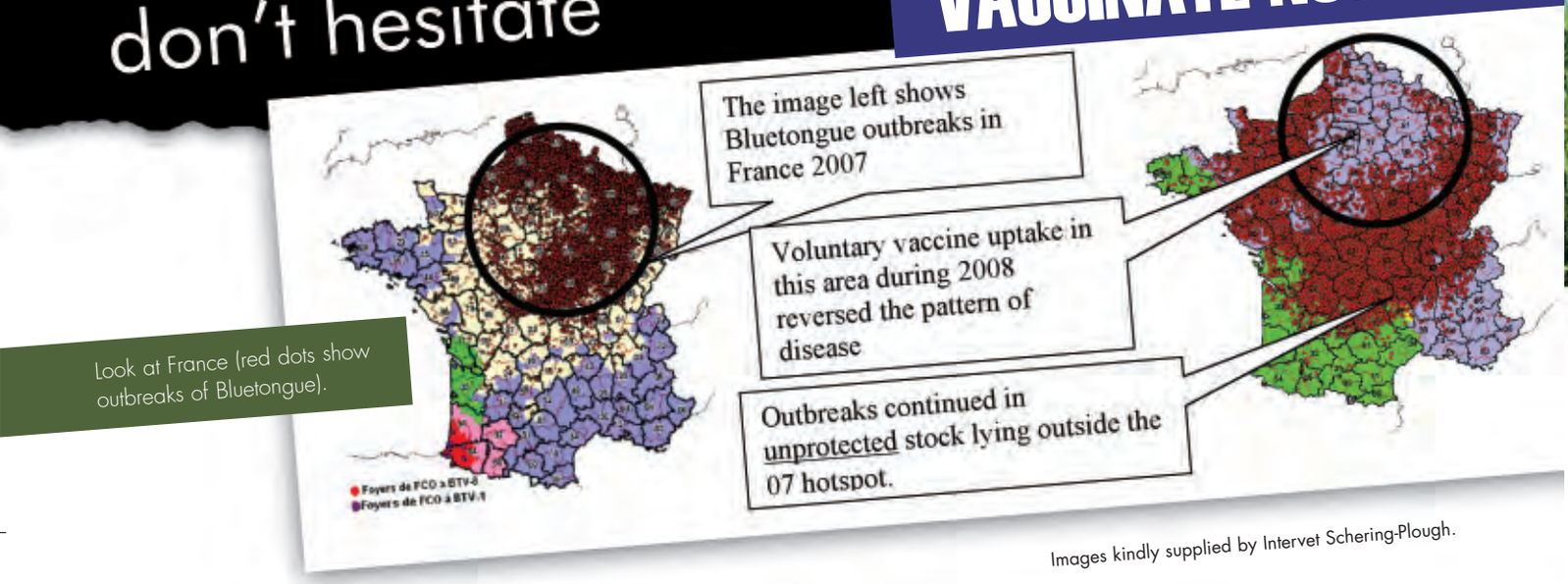
xlvets Excellence in Practice

Above Robert and his staff continue to look out for cows bulling, and then use the heat detection transponders as an extra back up to signal when a cow is in oestrus.

Above Left Dry cows and freshly calved cows are loose-housed together on straw and have ample trough space - all contributing to reducing stress levels during the critical period around calving.

Bluetongue don't hesitate

VACCINATE NOW..!



Images kindly supplied by Intervet Schering-Plough.

XLVet practices are receiving a lot of enquiries regarding Bluetongue vaccination. The advice is simple: **Don't hesitate: Vaccinate.** Farmers can help protect their livestock against the Bluetongue virus, BTV8 by acting now, before the midges are active. Drawing up a vaccination programme now with your vet ensures the most effective immunity prior to the start of the risk period.

FREQUENTLY ASKED QUESTIONS:

IS BLUETONGUE REALLY THAT BAD?

YES. The disease is devastating. France witnessed up to 30% deaths in sheep. Cattle mortality was less at 3-15%, but production losses from the disease can be immense.

DOES VACCINATION WORK?

Look at France the diagram above (red dots show outbreaks of Bluetongue).

As a result France is implementing compulsory vaccination for 2009. Similar evidence for vaccine control of Bluetongue was seen in the Netherlands where national Bovilis BTV8 vaccination virtually stopped disease.

IS IT SAFE?

The vaccines were scrutinised very closely throughout the UK & Europe. Of the millions of doses administered reports of problems were minimal (~1 in 10,000) and most proved to be nothing to do with the vaccine.

WHEN IS THE BEST TIME FOR ME TO VACCINATE?

Aim to vaccinate as many animals as possible prior to the period of risk. Speak to your XLVet practice to work out the most appropriate time for your farm; this will depend on your system and normal management routines.

NB Handling the vaccine requires cool storage and the prompt use of opened vials. We advocate the use of XLVets Sterimatic injectors with multi-dose vaccinator guns.

Bovilis® BTV8 is the vaccine that was most commonly used last year and has a proven track record of protecting stock. However, as with all vaccines careful planning is essential to ensure the correct timing of vaccine administration.

Vaccine maker Intervet/Schering-Plough Animal Health points out that lambing, calving and turnout dates all need to be considered to maximise protection, yet reduce stress and labour to both stock and humans. Accurate stock numbers on the holding are needed to work out the exact quantities required, not least because once opened, a bottle of vaccine must be used up within eight hours.

Vaccine should be stored at 2°-8°C. Sheep require a single dose for primary vaccination. Cattle need a primary course of two injections. Any animal previously vaccinated will only need one annual booster vaccination.

Boosters need to be carried out at least two weeks before the risk period. Protective immunity occurs three weeks after the last injection. However, dairy and beef herds can take further steps to reduce the risk of infection through cutting midge numbers by using Butox SWISH as part of a fly control programme. This insecticide has been shown to be effective at killing the midge responsible for carrying the BTV virus. For effective midge control Butox SWISH should be applied to cattle monthly.

In each issue we will have a competition offering our readers the chance to win one of many exciting prizes.

YOUR CHANCE TO WIN...

This month we have **a case of wine** and **10 XLVet fleeces** to give away to the 11 first correct entries drawn at random after the competition closes.

A winner will be chosen from all the correct entries received before the closing date, Friday 22nd May 2009. Answers will be revealed in the next issue of Farming Review. The editor's decision is final, no correspondence will be entered into.

Hint: Answers to all the questions can be found within the articles in this magazine.

To enter simply answer the five questions below by ticking the answer you think is correct, from the options given and complete your entry form. Details of where to send your entry can be found below. Good Luck Readers!

one...

What is the likely possible percentage of farms that may be affected to some degree by Johne's disease in the UK?

☐ **A:** 25% ☐ **B:** 35% ☐ **C:** 50%

two...

What had been identified as a major issue in fertility through the use of the InterHerd analysis at Lazenby Moor Farm?

☐ **A:** Poor Nutrition ☐ **B:** Poor heat detection ☐ **C:** Lameness

three...

What was the total reduction in Somatic cell counts (SCC) at Eastbrook Farm as a result of Farm Health Planning?

☐ **A:** 15,000cells/ml ☐ **B:** 30,000cells/ml ☐ **C:** 40,000cells/ml

four...

Through his herd health plan, what financial saving did the changes in dry cow therapy provide the Dorset farmer Mark Ford?

☐ **A:** Over £5,000 ☐ **B:** Over £3,000 ☐ **C:** Over £2,000

five...

As a result of introducing an improved mastitis control plan with vet Andy Adler, what was the increase in saleable milk yield at High House Farm?

☐ **A:** 50,000 litres ☐ **B:** 80,000 litres ☐ **C:** 160,000 litres

My details

Name

Address

Postcode

Daytime Telephone Number

Email

XLVets Practice Name

Send your completed entry to: XLVets Farm Competition No.1
XLVets, Carlisle House, Townhead Road, Dalston, Carlisle, CA5 7JF

Please let us know of any features/topics you would like to see included in future issues of the **XLVets Farming Review:**

☐ I would like to receive further information from XLVets by e-mail
☐ I do not wish to receive further information from XLVets

Precaution is better than cure

Be proactive - not reactive - towards safety...

XLVets Sterimatic Packs...

The XLVets Sterimatic needle protector and cleaning system provides ultimate operator safety along with a sterile system for multi-dose injections.

The XLVets Sterimatic system has many aspects which are extremely beneficial for both the user and livestock. These include protecting the needle from damage, whilst reducing infection and abscessing. It also reduces the chances of cross-infection of disease between livestock and most importantly reduces the risk of self-injection.

The Sterimatic system comprises of two parts; a sleeve which protects the needle to help prevent self-injection and keep the needle clean and a 'Stericap' which swabs the needle with disinfectant before and after injecting each animal.

The Stericap is proven to be effective against many viral and bacterial contaminants including; Foot and Mouth disease, Bluetongue, Staphylococcus, E.Coli and PRRSv.

The XLVets Sterimatic sleeve is compatible with most plastic multi-dose syringes. Each pack contains 1 sleeve, 5 Stericaps and 5 needles. Refill packs are also available. To order contact your XLVets practice.

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Excellence in Practice

XLVets Product. For more information and products please refer to the XLVets Livestock Catalogue.

NEW XLVets member...

...TYNDALE FARM VETERINARY PRACTICE, GLOUCESTERSHIRE

XLVets is delighted to welcome new member Tyndale Farm Veterinary Practice. A specialised farm animal practice in Gloucestershire, Tyndale employs eight vets; from 2008 graduates to a sexagenarian and are all full time cattle vets.