



St Davids Farm Newsletter

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The importance of good heat detection

What do most vets pinpoint as a cause of infertility on farms?

There are obviously many causes – nutrition, disease (inc lameness), management (inc housing) – which can be diagnosed by a careful investigation. However the most basic cause is poor heat detection. As we all know it may not matter what your conception rate is, if you are not serving your cows then conception rate is almost irrelevant. With increasing herd size, increased paperwork, less staff and dated facilities then the cows do not get observed as they should. Thus basic requirements like good heat detection are often secondary.

Heat detection should begin 35 days post calving. All heats should be recorded so you have a reference for future heats. Recording heats is an issue. Often no one person has the responsibility so several people – the herdsman, the owner, the tractor driver – are required to observe the cows. This can lead to several problems – only the herdsman may know all the cows, if they are not well identified by a good freeze brand then others may not be able to accurately identify the cows, if there is not a central recording system – this can be as simple as a blackboard – then information will not be passed on and cows will either not be served or served at the wrong time.



Heat detection aids are widely available – Kamars, Checkmates, Beacons are the common stick on aids that turn red when the cow is mounted. There are problems with these – they are often not put on until the vet visit when it is too late; they have to be observed and acted on – no point serving her if it went off yesterday. They can also be set off by external factors – cubicles. The point here is they are only aids – was the cow due to come bulling, is it an irregular heat? This requires cow knowledge – only the herdsman may know the cows. This can lead to cows being served at the wrong times.

Tail paint is a cheap alternative. This is good in seasonal calving herds where the herd can be managed as one – here observation is focused on the whole herd, the tail paint is reapplied/topped up regularly. In all year round herds tail paint gives false positives – has it been rubbed off or was it not renewed recently?

Bulls are a great reason for no heat detection whatsoever! The bulls will

take care of everything! In most herds with bulls there is very poor heat detection. If a problem occurs it cannot be diagnosed until four months later! There are very few bull fertility checks – we can do a full fertility check for under £200. What is the cost of running an infertile bull for four months? Lost time and milk production in a dairy herd. No calves in a beef herd. Too expensive!

This is too vast a subject to be covered in a short article. Every herd needs a defined heat detection policy. It needs to be recognised as one of the major tasks on any farm. Everyone involved should know the protocol on the farm. Too often this will fail at weekends when there is reduced staff – thus two days out of seven there will be reduced or inefficient heat detection. Please work with your staff and your vet to make sure this important task is carried out correctly. Good heat detection will lead to good fertility. If not then we can analyse other factors knowing that this task is not the major factor.

Tony O'Loughlin – 07970492250

Lameness prevention workshop

This is a big thank you to Kingshay Farming Trust for providing an excellent workshop, to the MDC for funding it and to the 18 farmers who attended and made the day at Bicton College on March 16th a real success. Thanks also to the farm staff at Bicton for providing the facilities and the cows for us and to Giltspur for sponsorship.

It was by no means an easy ride! The morning classroom session had a very practical emphasis on the causes and prevention of lameness and those attending had to assess and score various aspects of their own farms within each topic.

Excellent photographs helped with identifying the common diseases causing lameness – laminitis, white line disease, ulcers, foul and digital dermatitis. The factors which contribute to these conditions were discussed and a check list scoring the risks for digital dermatitis really focused our attention.



In the nutrition session we saw how to assess cows for signs of rumen acidosis – a major cause of laminitis. Muck quality and the rate of cud chewing are simple ways to do this. We also



separated out a mixed ration to identify the amount of fermentable carbohydrates and long fibre it contained. Highly fermentable carbohydrates produce high levels of lactic acid, a particular problem with concentrate feeding and cows need time to acclimatise to changes in their levels in a ration. Long fibre encourages cudging and saliva production which will neutralise the acid.

Housing and management are critical factors in preventing lameness. We looked at obvious issues like cubicle design, flooring, slurry control and track surfaces but also more subtle features like feed barrier design and water trough placement.

The afternoon firstly allowed an on farm discussion of footbath protocol and placement. This was followed by observing a selection of cows standing and walking to give each one a locomotor score. Giving individuals a score from say 0 to 3 allows those mildly lame animals to be identified and treated early. Scoring the whole herd allows improvements following

management and treatment changes to be monitored.

Finally we had a foot trimming session, with some really helpful tips on crush placement and safe restraint. We saw how having the correct tools can make the job so much easier and also had good advice on the use of copper sulphate and bandaging. The five step Dutch method and the correct way to apply a Cowslip foot-block were demonstrated.

The feedback from the farmers attending has been really positive and I have been pleased to see a renewed motivation from my clients not just for trimming but also taking a serious look at the management of their cows to prevent lameness.

It is hoped this course will be repeated in other areas of the practice and it really is one not to miss. Here's to a spring with more cows skipping and less hobbling out to grass!

Emily Simcock – 07968305227

Feeding to manipulate milk casein

Approximately half of the milk produced in the UK is consumed as liquid, with the remainder being used in the manufacture of a range of processed products, particularly for the production of cheese.

In the latter scenario, milk composition assumes much greater significance and payment schemes based on fat and protein concentrations are particularly relevant. However, there is considerable variation within the composition of these broad categories of milk solids and many processors are interested specifically in individual fractions within these components.

What is described as milk protein, for example, actually represents several different groups of proteins contained in milk, the major fractions being casein and whey. In the dairy cow these fractions contribute approximately 80% and 20% of total milk protein, respectively. Casein and whey together account for around 95% of the total nitrogen in milk, with the remaining 5% accounted for by non-protein nitrogen (NPN), the greatest proportion of which is urea nitrogen.

The concentration of casein is particularly critical for cheese manufacture, affecting cheese yield and manufacturing properties such as clotting time. It is not surprising then that some processors offer a premium for milk with elevated casein concentration. However, modifying milk protein concentration or composition is much more difficult than changing fat content of milk. Nevertheless, feeding recommendations to enhance casein production centre around improving the energy intake of the cow, balancing with an appropriate protein supply (amount and type), and ensuring maintenance of rumen function.

Energy intake has a major effect on milk protein production, and energy intake rather than protein is normally considered to be the major factor influencing milk protein production. Increasing energy intake through concentrate or high quality roughage ingredients can increase both content and yield of protein in milk. However, improvements in casein production can only be achieved by increasing the true protein component of milk rather than the NPN fraction. Feeding additional starch-based concentrates increases the energy available for growth of rumen bacteria, but only where sufficient rumen degradable protein is also provided. The rumen bacteria provided a large part of the protein supply to the

udder. However, supplying fermentable energy and degradable protein above the requirements for growth of rumen bacteria should be avoided, as this can lead to problems with acidosis and high rumen and milk urea levels, with only limited benefit to casein production.

Increasing protein intake tends to have limited effects on milk protein concentration, but can improve diet digestibility, dry matter and energy intake, leading to increased milk protein. Feeding additional high quality protein, with low rumen degradability, can increase the protein available to the udder and supply more of the essential amino acid building blocks required for milk protein production. Improvements in total milk nitrogen and casein concentrations by supplementing with rumen protected amino acids, primarily lysine and methionine, have also been reported.

It is worth remembering that casein concentration is influenced by many non-dietary factors such as cow breed and stage of lactation. However, dietary manipulation and control of ration offered can influence concentration of casein in milk. Ultimately, this knowledge may offer producers the opportunity to avail of bonus payments for their milk supply.

Kevin Roberts – 07768 262459



Grazing sampling

It is intended that there be a monthly grazing update in the newsletter from here on throughout the summer.

Samples will (hopefully!) be collected throughout the Southwest and so provide some sort of guide to grazing conditions and quality for your region. Should you be interested in being a contributing farm, please get in touch with either myself, your local Three Counties Feeds contact or call the office with your details on **01884 256256**, and they will pass them on. We will then either take the samples for you, or provide the necessary means for you to be able to do so. First results and interpretation next month then.

Charlie King – 07917 203790

Grass silage – the most profitable feed on the farm

Good quality silage will earn you more money from increased milk yields and save you money on concentrates. Last winter many producers struggled to maintain their milk yields due to an indifferent silage crop.

Dry matter varied from 20% to 55%, energy from 6.5ME to 11.7ME and crude protein from 10% to 16%. There was some very good silage made but not nearly enough to feed through the winter, while others had large amounts of dry, very fibrous low energy material on hand. Certainly with the cost of concentrate rising and little or no movement in milk prices this year's silage will be vital for overall profitability for the next 12 months.

Key tips for successful silage making:

- Target good rye grass based swards. Be wary of secondary grasses and old pastures as they will be lower yielding and also lower in sugars.
- Do not use excess nitrogen as it can affect the drop of pH in the clamp. The longer this takes, the more chance of undesirable acids taking hold. Total nitrogen application should be between 75-100 units per acre depending on soil fertility.
- Make the most of your slurry applied. N,P and K from slurry should be part of your fertilizer recommendation. Avoid late application to pasture or leafy swards.
- Cut dry. Try to mow when the crop is dry with no dew or rain on it. Ideally make the swath as wide as you can or ted as possible.
- Don't cut too low. Leave the base rubbish behind in the sward bottom, cutting at a height of around three inches.
- Take care when raking to avoid contact with the ground so not to bring any debris or muck into the sward. Keep soil on wheels to a minimum.
- Wilt quickly to concentrate sugars. A wilt of 24 hours should give a target of 27% dry matter. If in any doubt over high nitrates go for a longer wilt to achieve 35% DM.
- Fill the clamp quickly using the Dorset wedge principle. Ensure an even filling avoiding air pockets, rolling as you go.
- Roll clamp when finished and sheet

down every night. It takes just 20 minutes to use up oxygen in a silo and then a lactic fermentation starts if no more air is getting in.

- Don't roll the next morning. It squeezes out carbon dioxide, sucks in fresh air and restarts the butyric fermentation instead.
- Completely seal the clamp, and weight down the shoulder and top sheets as soon as possible: lactic acid fermentations do not start until all the air has gone and no more is getting in. Side wall should be sealed before starting.

Results for attention to silage detail:

Palatable, low ammonia, high intake, high performance silage.

Other factors which influence your silage making process will be other forage crops i.e. maize silage, wholecrop cereal, wholecrop legumes, fodder beet and perhaps some succulent feeds. One thing is for sure; feeding more than one forage will improve dry matter intakes, increasing your milk production from forage rather than concentrate. A major factor is always cow health; a cow with good rumen function will be under far less stress both from a metabolic and nutritional point of view. Forward planning of how much and of what type of forage is very important to achieve this.

Steve Symons

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