Good transition management includes proactive care for twin-bearing cows

WILL SHEPPARD, ENDELL VETERINARY GROUP

Endell Vet Group's Will Sheppard has helped improve fertility and cow health for a high yielding herd by ensuring that cows transition well into milking, and by identifying twin-bearing cows so they can be managed accordingly.

(Left) Gerald Lambert, (Right) Steve Lee

Veterinary surgeon	Will Sheppard
XLVets practice	Endell Veterinary Group

At Darfield Dairy, near Salisbury, dairyman Steve Lee manages Gerald Lambert's 160 cow pedigree Holstein herd; yields average 11,700 litres/cow (including heifers), on twice-a-day milking. Production levels have been built up through focused efforts in breeding, together with excellent management which enhances longevity; some cows are giving 14,000 litres and are in their fourth or fifth lactations.

Will has been making fortnightly fertility visits and has instigated a number of changes over the past year.

Will explains: 'Steve now starts serving cows at 38-40 days post-calved, and non-bullers are treated at 40 days. We are also now PD-ing at 32-42 days instead of 42 and over, so we are identifying non-pregnant cows sooner. Since the herd is managed as a single group, this means we have fewer fat cows in late lactation.'

Changes have also been made in the management of twin-bearing cows and through carrying out metabolic profiling and monitoring DCAB transition ration, the issues of ketosis and milk fever have been controlled.

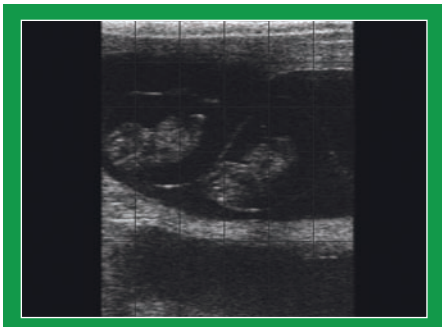
Care of twin-bearing cows

There is a high incidence of twins on the farm due to both good nutrition and high yielding genetics. Typically twin rates are around 5-8% but at Darfield Dairy they are around 8-14%.

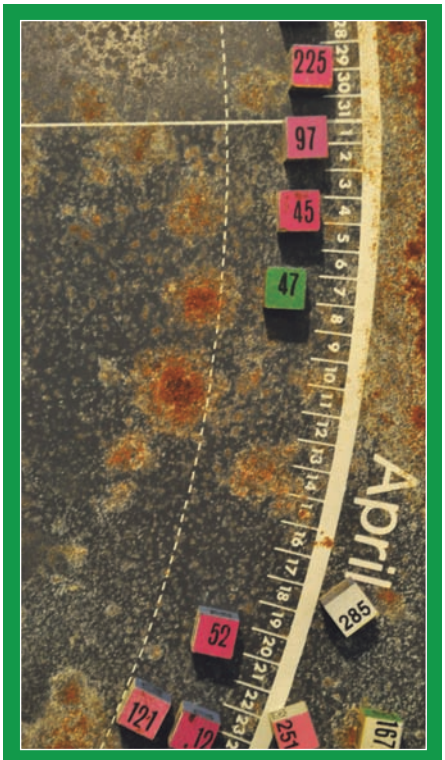
Will adds: 'One of the after-effects of a hot summer is an increase in twin rates - due to temperatures affecting hormone releases and dry matter intakes. So we are expecting even more twins to be born this spring.

'Twin-bearing cows tend to calve early, and this can cause problems. On this farm, cows have a traditional 60 day dry period (although with selective dry cow therapy). So if they are managed the same way as other in-calf cows, they will have a shorter time on the transition diet. This can impact on their energy status and calcium metabolism making them more likely to suffer from peri-parturient diseases such as retained foetal membranes, metritis, ketosis and DAs, all of which contribute to a delayed return to service.

'So we are actively scanning and looking for twins. Since we are now PD-ing cows earlier, we can also identify the twin carriers sooner. These cows are scanned again when three months into the pregnancy to check that they have not slipped the embryos, which is a bigger risk where twins are present.



A scan showing how twins can be identified at 34-42 days of age



Green on Bray Board

'And on the Bray board in the parlour, any cow carrying twins is assigned a green coloured magnet to distinguish her from the others.

'Twin-bearing cows are dried off, and moved into the transition group two to three weeks earlier than normal, to ensure that they have a full three weeks on the transition ration. They are also given a bolus when they are moved into the transition group, designed to help them better extract energy from the ration and reduce the extent of the negative energy balance.'

After calving, cows that have borne twins are given propylene glycol as an energy boost.

Dry cows

(Left) This heifer calf looks normal but she is actually one of twins, the other calf being male. This means there is a 92% chance that she is a freemartin and not suitable for breeding. Will says: 'Farmers need to keep track of such calves, as it's not uncommon for vets to come across an infertile freemartin when PD testing.'

Ration presentation problem

The herd calves all-year-round with a slight autumn peak. In the summer, true dry cows go out to grass.

Transition cows are fed a full DCAB ration, which is monitored using urine pH measurement to ensure it is working correctly, so as to prevent milk fever and secondary metabolic diseases arising.

At Darfield Dairy, urine samples from five to six cows that have been on the transition diet for 3-4 days are tested every six weeks. Steve uses a catheter to extract the samples and Will measures the urine pH as soon as he gets back to the practice where there is a calibrated pH meter. The target range is pH 6.2-6.8.

There is great attention to detail on this farm: urine pH checks of transition cows are also made whenever any changes to the ration are made, e.g. a change in maize silage.

However, in August/September of 2013, there was an increase in cases of milk fever, metritis and clinical ketosis. When Will assessed the metabolic profiles of dry cows and fresh calvers, he found NEFA levels were elevated, indicating a degree of fat mobilisation. The urine pH results in October were also too high.

The ration was not working effectively.

The transition cows were kept out on a bare paddock opposite the dairy, with some access to grass, whilst still being fed a complete transition ration. Grass can have a high DCAB value so, in consultation with the farm's nutritionist, they were brought inside and grass silage was also removed from the ration. With no grass in the diet, the urine pHs came down, and clinical milk fever cases stopped.

It is now standard practice for all transition cows to be housed in the last three-weeks prior to calving (the close-up period). The dry cow ration is now just maize silage, chopped straw, a mineral blend and DCAB salts.

However, although the average urine pH was in the target zone, the range of individual values was wide.

Will explains: 'In January 2014, although the urine pH average was 6.8, the range was 5.49 to 8.30. In March, there were more cases of ketosis and some DAs too. These clinical cases will have been just the tip of the iceberg, there will have been many cows with subclinical ketosis too.'

Will carried out more metabolic profiling and was able to pinpoint the issue as originating in the transition period.

So why was this, when on paper the diet looked fine? The problem was in the way the diet was being presented to the cows.

Steve explains: 'There had been a change in the type of straw we were using - from a brittle one to a waxy one, and it wasn't getting properly chopped in the mixer wagon. So the cattle were sorting out the straw and the bitter DCAB salts.'

The problem was solved very simply with the purchase of a straw chopper which consistently cuts the straw to a 30mm length. The whole situation changed 'overnight'. The following set of urine pH tests confirmed the problem was resolved - they ranged from 5.24 to 6.49. With the root cause identified, there is no longer any sorting and there have been no further milk fever cases.

Ration close-up

Straw chopper investment

Post-calving care

Steve adds: 'It's important to keep an eye on the cows after calving too. We keep them on the straw yard for at least four days, and up to two weeks, depending on numbers and space. They need to get settled and be eating the ration - that's the crux of it.'

Steve looks out for subtle changes in cow behaviour that may indicate metabolic issues - a drooping head, ears forward, difficulty standing, and hard dung instead of soft working dung.

'We used to give propylene glycol to any cows which looked like they had symptoms of ketosis or if their milk yields were not increasing. But we've not needed to use it over the past year,' says Steve.

Improved fertility

At Darfield Dairy, cows are now transitioning better and this has improved fertility: the herd averages a calving to conception of 105 days, with a calving to first service of 58 days. And over the past 12 months, the calving index has reduced by 10 days to 385 days.

Further details on the effects of heat stress on the incidence of twins can be found on Endell Vet Group's farm blog at **www.endellveterinarygroup.co.uk**.