

# Beating milk fever problems

**Milk fever problems need to be tackled quickly because the disease can lead to other health and fertility problems in early lactation cows. Here we look at the serious problems faced by one dairy unit and how they went about rectifying matters.**

When brothers, Oli and Ed Partridge finally clinched the farm of their dreams, they had not bargained on the move to a new premises being beset with problems around calving and early lactation. What they had to contend with was a serious explosion of milk fever cases.

This type of problem had never arisen throughout their family's lifetime of farming on the neighbouring premises. And when they took on the tenancy of Lower Buckholt Farm near Monmouth, they were eager to increase cow numbers and shed the constraints of the previous, smaller business.

Cow numbers increased from 100 to 250; calving was edged towards a seasonal, autumn, rather than year-round pattern. Grazing management and forage access were both improved and yields went up from 7,100 to 8,200 litres. And then—in their very first season on the new farm—milk fever struck.

"I can only describe it as an epidemic," says Oli, reflecting on the events of August 2011. "We had nine clinical cases of milk fever out of 30 calvings and many more sub-clinical cases. We had seven retained foetal membranes; endometritis in most of the clinical and sub-clinical milk fever cases; three displaced abomasums as a result of poor intakes post-calving and even one downer cow which



*Ed, Oli and Philip Partridge with their vet Bill Main from Belmont Vets.*

had to be put down.

"Lots of veterinary intervention was required to clean the cows up and get them ready for bulling. In our first 12 months we used 72 wash-out tubes which compares with just one or two that we'd normally use."

Urgent attention had to be given to the problem, and the services of vet, Bill Main from Belmont Vets and nutritionist, Richard Cooper from EBVC were brought into play.

The treatment plan was quickly put in place, and in the first instance comprised of intravenous calcium. This was supplemented with oral calcium.

"Every clinical case of milk

fever was treated with calcium straight into the vein. Everything that was about to calve had a Bovikalc calcium bolus, followed by another immediately after calving," says Ed.

This action was described as a 'lifesaver' by the brothers, who then sought to get to the root of the problem.

The obvious next step was to analyse the transition cows' feed, which at the time comprised a ration of 12kg hay, a blend, magnesium chloride and custom dry cow minerals.

"On paper, the ration looked perfect for cows close-to-calving and the hay—which we'd grown from a 40 acre field which had had

very little phosphate or potash in previous years—had analysed well, with low levels of potassium," says Oli. "This meant its DCAB (dietary cation-anion balance) value should have been low, as required by transition cows."

However, such was the severity of the problem that the brothers decided to have the hay re-analysed while also urine-sampling the cows, and the new results painted a completely different picture.

Not only was the urine far too alkaline, indicating that the cation-anion balance was not right, but the hay's new analysis showed its DCAB value was unacceptably high.

"We had obviously picked two bales for the initial analysis which were not representative of the whole lot," says Oli.

The ration was immediately changed under Richard Cooper's direction, with hay cut back to 8kg and partially replaced with wheat straw. With a further slight change to the blend and increase in magnesium chloride (from 0.08 to 0.13kg DM/head/day), the effects on the herd were almost immediate.

"The change to the ration was fairly marginal but the difference it made was huge," reflects Oli. "In the space of two weeks, the problem was solved. We've calved



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130 cows since then and have had no more displaced abomasums, no retained cleansings and just one case of milk fever in a cow that was overweight."

Vet, Bill Main, explains the principle of their approach and says: "You don't want high levels of sodium or potassium (cations) in the transition cows' ration, but do want the chloride and sulphur (anions) which push the DCAB down.

"A low DCAB encourages the cow to increase calcium mobilisation from the bones and calcium absorption from the intestines, so she's much better prepared for the surge in her calcium requirements at around calving," he explains.

Remarking that calcium is not just required to satisfy the huge demand for colostrum straight after calving, but is also essential for muscle contraction. That explains why milk fever—or hypocalcaemia (low calcium)—is regarded as a 'gateway disease'.

"Low calcium impairs the contraction of uterine muscle which can lead to prolonged calvings and more retained cleansings. Uterine infections can then develop which lead to more treatments and a prolonged calving-to-conception interval, and so the problem impacts on herd fertility and performance.

"Low calcium will also reduce contractility of the rumen as well as the abomasum, both of



*The dream move to Lower Buckholt Farm did not go as smoothly as the Partridge family hoped.*

which will reduce feed intake around calving time, so increasing negative energy balance post-calving, suppressing the immune system and predisposing the cow to ketosis and displaced abomasums," says Bill.

"With poor colostrum quality too, calves can also be affected, so having a profound effect on animal health—as well as staff morale—across the whole unit."

Ed reiterates the disappointment when expectations had been so high for the new unit. "We had planned for everything to be perfect," he says, "but it all went totally wrong just because of 40 acres of rogue hay. That hay cost so little to make, but it cost

us so much in the end."

Having cracked the problem during the 2011 calving season, the brothers are now focussed on ensuring it never recurs.

"We won't use hay in the transition diet again but will replace it with wholecrop and maize as the base for the ration," says Ed.

Today, the herd is back on form, with three-times-a-day milking introduced for winter with the help of a team of relief milkers from MJP Services, production is on target for 8,500 litres and a new aspiration in sight to increase milking-cow numbers to 400 head.

Fat cows, twin-bearers and those with a history of milk fever routinely receive a Bovicalc calcium bolus immediately before and after calving and intravenous bottles are kept on standby for use in the event of a clinical case.

"Outbreaks this bad are rare, but they happen," reflects Bill. "Feed is never consistent and changes of diet are inevitable, but our hope is always to prevent milk fever by getting the ration right."



*Wholecrop and maize silage now form the basis of the dry cow ration.*