

Tackling milk fever at grass

Dry cows at grass bring their own specific challenges during the summer months with calcium balance an issue. Advanced Nutrition's Mark Gorst offers some advice.

Milk fever—both clinical and subclinical—occurs at calving which is probably the most stressful time of the cow's life particularly in summer due to changes in the weather, environment, diet and groups all at the same time.

Dry cows at grass are under pressure since grass contains more calcium than is required and they only passively absorb calcium. At calving there is a sudden demand for calcium not only for colostrum production but also for muscle contractions relating to calving and udder function.

Consequently the required level simply cannot be met by passive absorption. Active calcium absorption and mobilisation is required, yet it takes between 24 and 48 hours for a cow to change to active absorption, and so there is always a drop in calcium levels around calving.

Added to that is fluctuating energy balance. Dry cows at grass are difficult to manage in relation to energy, especially if the dry cow paddock isn't kept grazed hard enough or quantity and quality of grass varies. Condition increases the risk of fatty liver and related issues at calving.

Intravenous calcium will give a quick response to a clinical case of milk fever and often save a cow's life. However, it doesn't reduce the problem—IV calcium may cause fatal cardiac problems and perhaps, most significantly,

Beckside milk fever and related incidences

	2011	2013
Milk fever treatments (% of herd)	70	3
Calving assistance (% of herd)	50	10
Calving to first service interval (days)	106	86
Days to conception (days)	142	124
Lactation period (days)	330	300
Calving Interval (days)	433	417

shut down the cow's own ability to mobilise the calcium she requires at this critical time. Cows treated with IV calcium often suffer a hypocalcaemic relapse 12 to 18 hours later.

Subcutaneous and oral calcium supplementations can be offered around calving but are often not given as required and there is only a small amount of absorption. Drenches

can be used to provide a quick response to energy deficiency.

Disease prevention

Since both clinical and subclinical milk fever and consequential metabolic disorders are mainly related to the cow's diet, the challenge is to maintain her feed intake and rumen balance around and shortly after calving. However, it is important to manage the cow carefully during the entire dry period to minimise fat deposition in the liver, maximise liver health and therefore also improve ovarian development for the next lactation and fertility cycle.



Mark Gorst.

Various preventative measures have been tried and tested to achieve the correct calcium balance around calving—including the use of a new dry cow feed additive:

Preventative measures

X-Zelit—a calcium binding additive containing synthetic zeolite—is a product initially designed to reduce the build-up of limestone from hard water in washing machines. Since then, it has been developed to bind calcium from the diet during the last two weeks prior to calving and officially trialled in herds in Denmark. The additive stimulates the cow's hormonal system to actively absorb and mobilise calcium to ensure she is fully 'fired up' at the time of calving. Cows are subsequently more energetic, have higher feed intakes and are 'ready to go'—and consequently they are less likely to fall in to energy deficit and also suffer fewer metabolic issues.

DCAD diets work reasonably well—however they require good management and monitoring and are not suitable for all farms.

Maintaining cow condition is also critical—target condition score 3 at drying off and calving to prevent fat being laid down by the cow. During the dry period, target feeding 9MJ ME/kg DM with a 12.5kg DM intake.

Paying attention to detailed feed management is vital—manage the dry cow paddocks as outdoor housing and feed as you would normally indoors.

Calving issues came to a head two years ago at, Beckside, Silecroft, Millom where Robert Morris-Eyton and his team Stuart Benn and Michael Barnes manage in one group a 200-cow herd, averaging 10,000 litres milk sold per year.

"Two cows per month suffered from displaced abomasums requiring veterinary intervention and a proportion of those were culled," Stuart explains. "At the time we used fire brigade measures and treated every second calver or older with IV calcium. Overall, the cows were really struggling. They didn't want to milk immediately after calving, and we had to wait three weeks to determine their potential performance."

"Enough was enough. In 2011, we decided to introduce an official dry cow regime and dis-

cussed measures with Advanced Nutrition's Mark Gorst. He identified calcium imbalance to be at the heart of the problems and advised us to introduce X-Zelit, to a strict dry cow diet. During summer dry cows are held on bare pasture while those near to calving are housed at night and

fed straw plus a supplement to provide 110MJ ME daily.

"Since then, we've abandoned routine IV calcium treatment, in fact we've used only 12 bottles since 2011. Calving assistance has fallen from 50% to 10%, and nowadays we tend to leave them to calve themselves, unless the calf is malpresented," says Stuart. "Displaced abomasums are a thing of the past, and as soon as cows calve they have more energy and appetite. Milk can be seen to be increasing from day one."

Herd owner Robert Morris-Eyton adds: "This simplified dry cow regime featuring X-Zelit has removed the headache of calving and other issues and enabled the more straight forward cow management for the entire team."



Stuart Benn.

Milk fever more common than most farmers realise

Clinical milk fever incidence is currently running at around the 10% mark in UK dairy herds, and costing approximately £200 per cow. But more importantly subclinical milk fever can affect up to 75% of the herd and it's unrecognisable and generally remains untreated.

Furthermore, cows suffering from milk fever are between four and nine times more likely to suffer from a miscellany of other metabolic disorders—many of which are related to each other.

For example, displaced abomasums at £500 per incidence, retained cleansings £265, metritis £130 and SARS £300.

Incidents continue to remain high simply because control has never been straight forward and other issues are often not appreciated to be related to calcium balance.