MILK FEVER
Old concepts revisited

November 2026

Far from a new concept, milk fever is a condition that every dairy farmer will be familiar with and likely at some point has been a source of frustration. Whilst we have come a long way, with incidence rates of clinical milk fever across some groups recorded as low as 2.7%, there are still well documented rates of sub-clinical milk fever in herds reaching near 50%. In the latter case, higher rates of retained cleansings, DA's, metritis, reduced dry matter intakes, production and fertility impacts are all well established consequences away from the well known 'down cow' most will be familiar with.

This brief newsletter will review some of the basics while touching on some of the new ideas and thoughts around a much discussed problem.

Where it starts

Milk fever simply exists because milk driven calcium demands at calving outstrip her ability to maintain her blood calcium levels.



How is calcium normally regulated

Cows regulate their calcium through 3 main pathways, these are the same pathways we try to ensure are working optimally when managing dry cows.



1. Absorption from the gut

Calcium is absorbed from the food the cow eats through her intestines. Vitamin D helps the gut absorb calcium efficiently.



2. Release from the bones

The cow can release stored calcium from her skeleton when blood calcium levels fall.



3. Reduce calcium losses

The kidneys can reduce the amount of calcium lost in urine, helping conserve what is already circulating.

These mechanisms are controlled largely by hormones, particularly parathyroid hormone (PTH) and active vitamin D.

What do most people do?

Successful dry and transition management revolves around getting these normal systems working perfectly at calving – a myriad of options are available that are likely well known by now, but a recap is provided below.

Reduce potassium and calcium (grass restriction)	Standing hay, straw or well managed TMR (as little grass as possible)	Simple and effective, if possible	In practice, forages low enough are difficult to come by
Magnesium supplementation	Enhances normal hormonal pathways for calcium control	Simple and easy to do (in feed or water)	Can be unpalatable and will not override other risk factors (e.g. high potassium)
DCAD diets	Anion salts fed in a carefully balanced ration 2/3 weeks pre-calving	Robust milk fever control when carried out properly	Time and cost If mis-managed can have very poor outcomes

Calcium supplementation	At the point of calving e.g. bolus	Relatively cheap and easy to do – multiple options exist, some better than others – discuss with your vet!	Does not address the underlying cause of milk fever – best in conjuncture with other methods.
Partial DCAD	Use forages available to create a DCAD diet	If forages are appropriate this can be simple to do	Often the forages available do not allow full acidification and milk fever control is not robust
Calcium binders	Fed at a set kg/head rate 2-3 weeks pre-calving	Simple and effective – if everything else is right!	Costly and finding the correct rate is important…..

Calcium (Phosphorous) binders

Over the last few years we have seen an increasing number of issues on farms using binders after seemingly years of no problems.

It's important to understand that these products work by binding phosphorous, not calcium and it is likely, although still poorly understood, that they increase gut absorption of calcium.

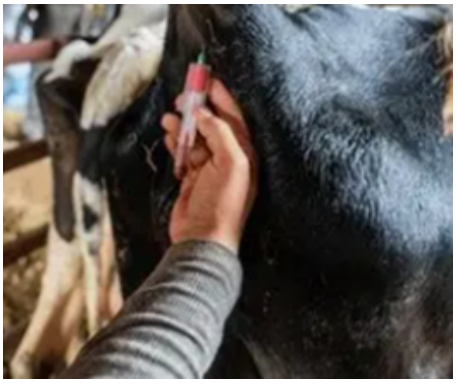
They do this by reducing blood phosphorous levels pre-calving; unfortunately, in some instances this can create low enough phosphorous levels to cause issues which may include poor dry matter intakes post calving and in the worst case a condition known as 'post-parturient hemoglobinuria' which can result in a fatal anemia.

Safe binder feeding should be based on an understanding of the background phosphorous levels in your forages, the intakes the cows are achieving and blood phosphorous levels pre/post-calving; deviations from guidance here will often explain patches of poor performance through unrecognized over or under binder intakes. Clearly forage and feed levels of phosphorous change through the year and recognizing this is key when feeding a binder.

Dietary Phosphorus	Prefresh Dry Matter Intake (kg)					
	10 kg	11 kg	12 kg	13 kg	14 kg	15 kg
0.28 – 0.31%	235	260	285	305	330	355
0.32 – 0.35%	270	295	320	350	375	400
0.36 – 0.39%	300	330	360	390	420	450

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How to monitor



Historically, point of calving calcium bloods have been the gold standard for monitoring sub-clinical milk fever.

More recent research suggests that rather than the 'depth' (how low a cow goes) of milk fever, the 'persistence' (how long it lasts for) may be more important. This research categorises two types of cows, those that experience a short sharp drop in calcium at calving before quickly rebounding and those that remain low for almost a week post-calving; in the latter group the knock on consequences for her lactation may be far worse.

Discuss this with your vet when next talking about dry cow management.



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