STOPPING MILK FEVER IN ITS TRACKS:
A GUIDE TO MANAGING MILK FEVER.
MILK FEVER FACTS

CLINICAL MILK FEVER AFFECTS AROUND 4-9% OF UK DAIRY COWS.

INDIVIDUAL FARMS HAVE CLINICAL INCIDENCE RATES OF UP TO 60%.

CLINICAL CASES INDICATE THERE IS A LEVEL OF SUBCLINICAL MILK FEVER IN THE HERD, HOWEVER HERDS CAN ALSO HAVE SUBCLINICAL MILK FEVER WITHOUT CLINICAL CASES.

EVERY DAIRY COW IS AT RISK OF MILK FEVER, MOST SUFFER SOME DEGREE OF HYPOCALCAEMIA AT CALVING.

MILK FEVER IS PREVENTABLE.

TRANSITION COW DIETARY MANAGEMENT IS AN IMPORTANT PART OF MANAGING MILK FEVER.

CLINICAL CASES REQUIRE PROMPT AND EFFECTIVE TREATMENT.

BOVIKALC® REDUCES THE RISK OF MILK FEVER IN DAIRY COWS, BOTH AROUND THE TIME OF CALVING AND FOLLOWING TREATMENT OF A CLINICAL CASE.

There are few farms that can claim that they have never seen a case of milk fever! While clinical cases of milk fever are the ones that we tend to remember, particularly those that didn’t end well, from a cost and health perspective they only represent ‘the tip of the iceberg’. Subclinical milk fever is an extremely common finding on farms from my experience, and the losses it brings in terms of production, reduced fertility and other metabolic disease should not be underestimated. Fortunately, it is a very preventable disease, and there is much that can be done without too much cost or effort in order to reduce the impact that it has on your business. This guide is designed to tell you what the causes of milk fever are, and how best to protect your animals against it.”
WHAT IS MILK FEVER?

Milk Fever is the name given to the condition when cows show signs of low blood calcium levels. At a subclinical level, these signs will not be seen, however blood calcium levels are still below normal (hypocalcaemia). Milk Fever is a macromineral disorder commonly affecting dairy cows around the time of calving, usually within 1-2 days of giving birth.

CLINICAL MILK FEVER:
Cows show overt clinical signs, which may include: Cold extremities, a low temperature, mild bloat, poor appetite, constipation, unsteadiness on their feet or an inability to rise.

Signs can develop rapidly within 2-4 hours and if untreated can result in death of the cow within 10-24 hours, either as a direct result of the condition, or indirectly through related complications as ‘downers’.

SUBCLINICAL MILK FEVER:
Calcium levels are below ‘normal’ but there are no apparent clinical signs; this may resolve or develop into clinical milk fever. Subclinical milk fever can have negative impacts on health and productivity.

Clinical cases can give an indication of a level of subclinical milk fever; for every clinical case there are around 3-6 subclinical cases in the herd. However herds can also have a problem with subclinical milk fever without clinical cases.

A HIGHER LEVEL OF DISEASES AND DISORDERS ASSOCIATED WITH MILK FEVER CAN ALSO BE A WARNING SIGN. THESE INCLUDE:

- Dystocia/calving difficulties
- Retained foetal membranes/placenta
- Displaced abomasum (LDA)
- Poor feed intakes and energy-related disorders (fatty liver or ketosis)
- Endometritis/whites through poor immune function and delayed uterine involution
WHY DOES MILK FEVER OCCUR?

The onset of lactation results in a sudden and massive demand for calcium: an extra 80g per day.

The cow can adapt to this change by drawing on her own calcium reserves (bone and tissues), improving absorption from the diet and by reducing losses in the urine. This adaptation occurs with the help of the cow’s calcium homeostatic mechanisms.

There is a balance between lactational calcium demands and the ability of a cow to mobilise her own calcium reserves to meet this demand.

The cow’s ability to maintain this balance and meet demands influences whether or not milk fever develops; in those cows unable to maintain this balance, milk fever develops.

WHICH COWS ARE AT RISK OF MILK FEVER?

All cows calving are at risk of milk fever and most have some degree of hypocalcaemia.

However, risk does increase with age and parity. Risk factors which can help indicate individual cows or herds at greater risk include:

- Increasing lactations (any cow 2 lactations and above)
- High yielding cows
- Previous history of milk fever
- Body condition score >3.5
- Grass based diets/forage or diet high in potassium (K)/high DCAD
WHAT ARE THE CONSEQUENCES OF MILK FEVER?

It is common for the odd case of clinical milk fever on a farm to not be perceived as a problem, and only when the number of cases suddenly increases is it considered a problem. However, every case of clinical or subclinical milk fever is a preventable problem.

EVERY CASE OF MILK FEVER HAS CONSEQUENCES:

Calcium is essential for skeletal and smooth (organ) muscles to work properly, as well as for nerves and the immune system to function. This means that with low calcium levels there are far reaching consequences on health and productivity that also have economic impacts.

CONSEQUENCES OF MILK FEVER INCLUDE:

- Lowered immunity
- Slower rumen, abomasal and gut turn over
- Reduced fertility
- Reduction in milk yield

INCREASED RISK OF OTHER EARLY-LACTATION CONDITIONS:

- 1.7 times Metritis
- 2 times Culling (1-30d)
- 2.6 times Dystocia
- 3 times Retained placenta
- 4.8 times LDA
- 8 times Ketosis
- 8 times Mastitis

The estimated cost of a clinical case of milk fever is approximately £250. On top of this, the consequences of subclinical milk fever may amount to as much as 1ppi on some farms.

TREATING CLINICAL MILK FEVER

Quick and effective therapy with intravenous calcium is essential to correct calcium levels, as this is a progressive condition that can lead to death in a very short period of time if left untreated.

Recurrence following treatment of a clinical case is common (30-35% of cases) and therefore measures to reduce the risk of milk fever following treatment are advisable, such as oral calcium supplementation.
MANAGING MILK FEVER

CLINICAL AND SUBCLINICAL MILK FEVER TO A LARGE EXTENT CAN BE PREVENTED THROUGH TRANSITION COW DIETARY MANAGEMENT AND NUTRITION.

Plan your dry cow forages in advance, and if managing cattle outdoors, try to make the paddocks as safe as possible. Essentially the end product either way should be as low as possible in potassium.

The amount of potassium in the diet of cows within three weeks of calving influences the incidence of milk fever. First and foremost, forages with lower concentrations of potassium should be used to feed cows within three weeks of calving.

- Minimise/eliminate application of dung – it is high in K. Use straight nitrogen fertiliser on dry cow silage/grazing fields.
- Later cuts are generally lower in potassium – usually better suited for dry cows from an energy standpoint as well.
- Keep grazing tight – tops of stems have more potassium than the bottom of stems and leaves.

Calve cows down in the right body condition (BCS 2.75). Fat cows are more likely to get milk fever and have calving difficulties, ketosis, etc.

Ensure that there is a good magnesium supply to dry cows (involved in calcium absorption); this usually means either a mineralised dry cow roll or specific dry cow mineral.

Feeding small amounts of certain salts such as magnesium or ammonium chloride or can also help to reduce risk – speak to your vet or nutritionist.

HOWEVER, THERE ARE FREQUENTLY SITUATIONS IN HERDS OR INDIVIDUAL COWS WHERE THERE IS AN INCREASED RISK OF MILK FEVER FOR EXAMPLE:

- OLDER COWS
- HIGH YIELDING
- PREVIOUS CASE OF MILK FEVER IN THE COW/HERD

SUPPLEMENTATION WITH ORAL CALCIUM SUCH AS BOVIKALC® BOLUSES HELPS TO REDUCE THIS RISK.
BOVIKALC®

FOR THOSE GROUPS OR INDIVIDUAL COWS AT RISK OF MILK FEVER, ORAL CALCIUM CAN BE SUPPLIED PRIOR TO THE RISK PERIOD. BOVIKALC® IS AN ORAL CALCIUM SUPPLEMENT BOLUS CONTAINING CALCIUM CHLORIDE AND CALCIUM SULPHATE.

EACH BOLUS PROVIDES 42G OF AVAILABLE CALCIUM:
• calcium chloride (fast release)
• calcium sulphate (slow release)

EACH BOLUS ALSO HAS AN ACIDIFYING EFFECT, MUCH LIKE A DCAD DIET HAS, THAT HELPS THE COW TO MOBILISE HER OWN CALCIUM RESERVES.

The bolus dissolves in the rumen within 20-30 minutes and helps to raise blood calcium levels over a prolonged period of time.
HOW TO USE BOVIKALC®:

TO BE USED IN DAIRY COWS AT RISK OF DEVELOPING MILK FEVER ESPECIALLY IN HIGH YIELDING, OLDER DAIRY COWS AND THOSE WITH A PREVIOUS HISTORY OF HYPOCALCAEMIA.

FOR REDUCTION OF THE RISK OF MILK FEVER:
• 1st bolus at the first sign of parturition
• 2nd bolus immediately after calving
• If necessary, give 1 or 2 additional boluses at 12–15 hour intervals

FOR SUPPLEMENTATION FOLLOWING CALCIUM INJECTION:
• 1st bolus 2–3 hours after calcium injection
• 2nd bolus 12–15 hours later

Provided that cows can raise their head and are starting to eat and drink.

Only administer bovikalc using the approved applicator.
REFERENCES

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ADVICE ON THE USE OF BOVIKALC® OR OTHER PRODUCTS SHOULD BE SOUGHT FROM YOUR VETERINARY SURGEON. BOVIKALC® CONTAINS CALCIUM.

FURTHER INFORMATION AVAILABLE FROM:
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DATE OF PREPARATION
JUNE 2011 / AHD6775