

Vet Only

Calpro[®] Bolus

The only ACVM authorised intra-ruminal calcium bolus for the prevention and treatment of subclinical hypocalcaemia and as an aid in the prevention and treatment of clinical hypocalcaemia (Milk Fever) in cows. Backed by NZ peer-reviewed trial.¹



KEEP ON TOP OF THE DROP

The insidious, invisible problem...

In NZ the average herd-level prevalence of subclinical hypocalcaemia is 52%²

Explaining Hypocalcaemia

At calving, a dairy cow must switch from being non-lactating (dry) to lactating (in-milk), rapidly adapting to the nutritional demands of milk production. A crucial mineral component of milk is calcium and at calving there is an immediate and increased requirement for calcium. Calcium is transported in the animal in the blood and it has several important roles including the mineralisation of bone and correct functioning of muscles. The sudden increased requirement for calcium at calving can lead to a measurable fall in blood calcium, referred to as hypocalcaemia. If the drop in blood calcium is severe it can lead to increasing paralysis of muscles and the serious clinical condition of Milk Fever (clinical hypocalcaemia). If left untreated, Milk fever leads to recumbency and potentially to the loss of the cow. By measuring the blood calcium level of cows without clinical signs of milk fever around calving, it has been shown that many still have a drop in blood calcium that results in serious health and productivity consequences (subclinical hypocalcaemia).

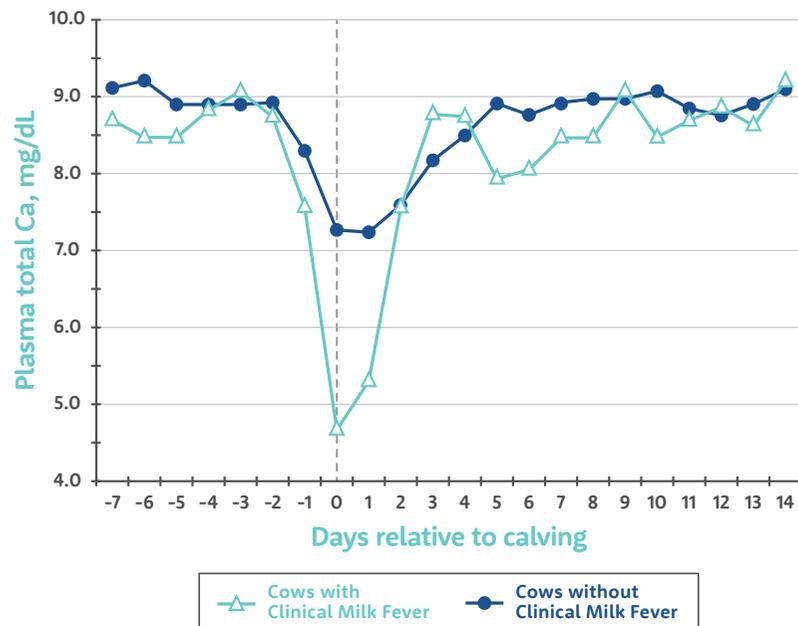


Fig. 1. Plasma concentrations of total calcium before and after calving. Data are from mature jersey cows with clinical milk fever (n = 8) or without clinical milk fever (n = 19). (Data from Kimura K, Reinhardt TA, Goff JP. Parturition and hypocalcemia blunts calcium signals in immune cells of dairy cattle. J Dairy Sci 2006;89:2588-95.)

Subclinical Hypocalcaemia

With increased demand to produce more milk, cows are under pressure around the calving period. Milk fever or hypocalcaemia is a disorder caused by low blood calcium levels. Milk fever occurs due to an imbalance between the cow's demand for calcium and her ability to mobilise her calcium reserves quickly enough, progressing to 'negative calcium balance' and possibly culminating in clinical milk fever.

To get an idea of the magnitude of the problem, the production of 10kg of colostrum by the cow requires 23g of calcium. A cow producing 25kg of colostrum would have to replace her total blood calcium level every hour! To help animals cope with the delayed adjustment to the change in the demand for calcium, calcium boluses are proving to be both popular and effective.

Clinical milk fever

Around 5 to 7% of cows are affected by clinical milk fever in the first one to two days after calving. Signs can appear within 4 hours of calving and, if left untreated, can result in the death of the cow within 10-24 hours.

Clinical signs include:

- Cold extremities
- Dry Nose
- Constipation
- Low body temperature
- Poor appetite
- Unsteadiness leading to inability to stand

Sub-Clinical Milk Fever

Sub-clinical milk fever affects up to a further 52% of cows post calving.

Signs of sub-clinical milk fever post calving include:

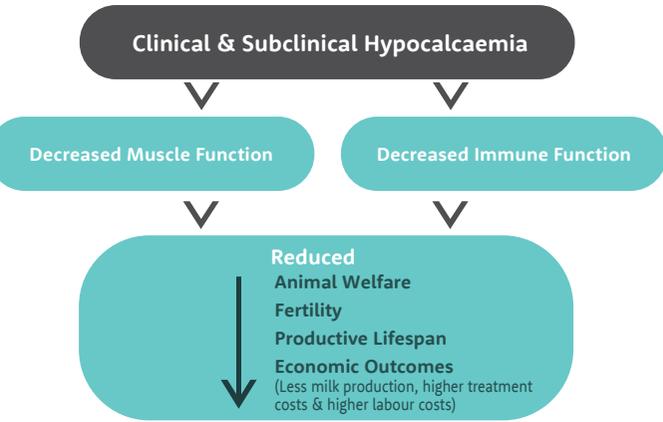
- Calcium levels just below "adequate" levels
- Drop in blood calcium level
- Increased risk of culling
- Reduced productivity and immunity

Other Associated Issues

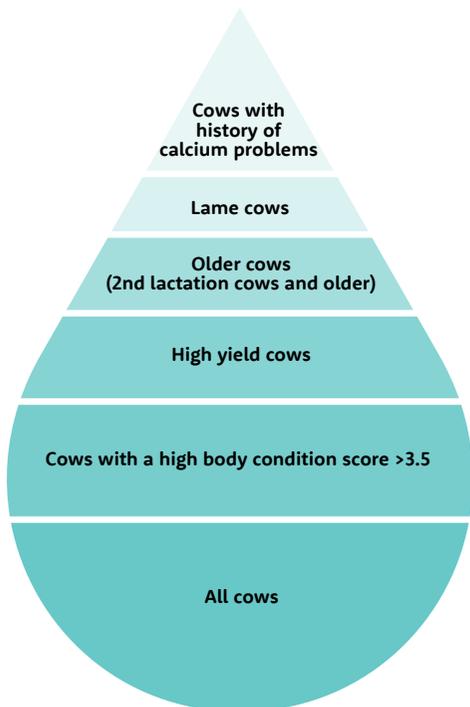
- Calving difficulties
- Metritis
- Fertility - later returns and a drop in pregnancy rates
- Reduced feed intakes - energy related disorders such as, fatty liver or ketosis
- Retained foetal membranes
- Displaced abomasums (DA)
- Reduced milk yield

Hypocalcaemia negatively effects optimum health and production.

Consequences of hypocalcaemia:



All animals are susceptible to milk fever, but some are at greater risk: Cows that can benefit from **Calpro Bolus**:



The Calpro Bolus solution

Use Calpro Bolus for the prevention and treatment of subclinical hypocalcaemia and as an aid in the prevention and treatment of clinical hypocalcaemia (Milk Fever) in cows. Calpro Bolus offers peace of mind because it is the only ACVM registered calcium bolus and is supported by a published, peer-reviewed New Zealand study¹.

A combination of academic and industry research is behind the design of Calpro Bolus, which dissolves within 50 minutes, rapidly delivering 43g of calcium to the rumen. Calcium is released in two forms, calcium chloride and calcium sulphate (refer to Fig 2.)

What is of critical importance with any supplementary calcium is that it does not interfere with the innate control mechanisms. Freshly calved cows need to access both the supplementary calcium and their own reserves.

Calpro Bolus boluses support the calcium control mechanism by lowering urine pH so natural body reserves of calcium are more readily available to the animal and assisting absorption of the supplementary calcium from the bolus within 1 hour of administration.

Bolus Technology

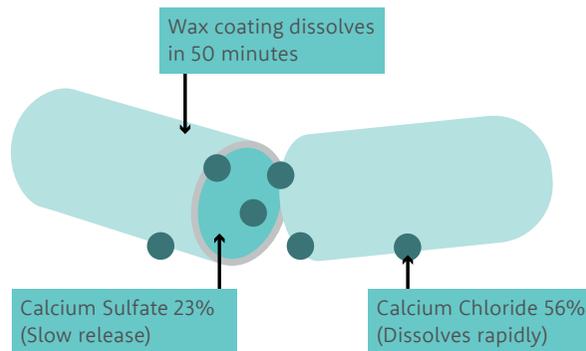


Fig. 2 Each 203g Bolus contains 43g of Calcium

Reducing the risk...

1. Calpro Bolus has been backed by peer-reviewed research in New Zealand¹.
2. Calpro Bolus is the **only** ACVM authorised intra-ruminal calcium bolus in New Zealand - this ensures Calpro Bolus has the highest quality assurance standards, stewardship and approved manufacturing.
3. Immediately after calving, cows experience high levels of calcium loss through milk and colostrum³. At this time of peak demand for calcium, Calpro Bolus prevents and treats subclinical hypocalcaemia and is also an aid in the prevention and treatment of clinical hypocalcaemia (Milk Fever).
4. Calpro Bolus delivers two essential types of calcium: chloride and sulphate. These two calcium ingredients have been proven to help get cows back to optimum performing levels³.
5. Calcium chloride is rapidly absorbed, and the calcium sulphate is absorbed over a longer period.
6. Peace of mind with the standard dose regime of two boluses administered 12 hours apart providing a sustained increase in serum calcium over 24 hours.
7. Calpro Bolus dissolves completely in the reticulorumen. The coating of the bolus protects against irritation of the epithelial surface of the throat and oesophagus. Furthermore, the bolus has a neutral taste, which makes it easy to administer.

Calpro[®] Bolus

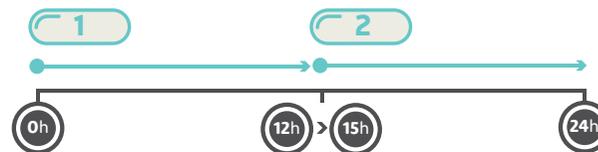
Prevents Subclinical Hypocalcaemia
KEEP ON TOP OF THE DROP.

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Treat Subclinical Hypocalcaemia

- Fast Action
- Sustained Release
- Targeted Individual Treatment

Treatment Period



Dosage

Administer orally to animals over 400kg.

- Administer one bolus if calving is imminent OR one bolus immediately after calving.
- Administer a second bolus 12-15 hours later.

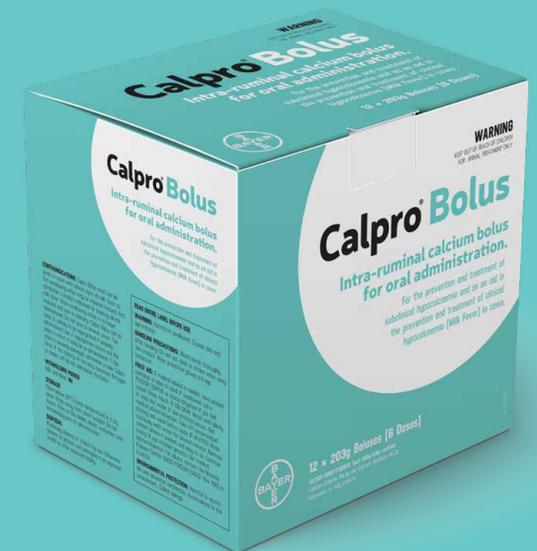
Withholding Period



1. Kl Roberts, J Bennison & S McDougall (2019) Effect of treatment with oral Ca boluses following calving on concentrations of Ca in serum in pasture-based dairy cows, New Zealand Veterinary Journal, 67:1, 20-26, DOI: 10.1080/00480169.2018.1520654
 2. Kl Roberts & S McDougall (2019) Risk factors for subclinical hypocalcaemia, and associations between subclinical hypocalcaemia and reproductive performance, in pasture-based dairy herds in New Zealand, New Zealand Veterinary Journal, 67:1, 12-19, DOI: 10.1080/00480169.2018.1527732
 3. Goff JP. The monitoring, prevention and treatment of milk fever and subclinical hypocalcaemia in dairy cows. Vet J 2008;176(1):50-57



metabolic
solutions



Pack Size: 12 x 203g Boluses (6 Doses)

Outer Size: 4 x packs (24 Doses)

Each 203g bolus contains:

Calcium Chloride 114.3g and Calcium Sulphate 45.7g
(Equivalent to 43g Calcium)

Calpro[®] is a registered trade mark of the Bayer Group. Calpro Bolus is registered under the ACVM Act 1997. Bayer New Zealand Limited, 3 Argus Place, Hillcrest, Auckland 0627, New Zealand. www.bayeranimal.co.nz | 0800 446 121