



Making Milk Fever History



xozelit

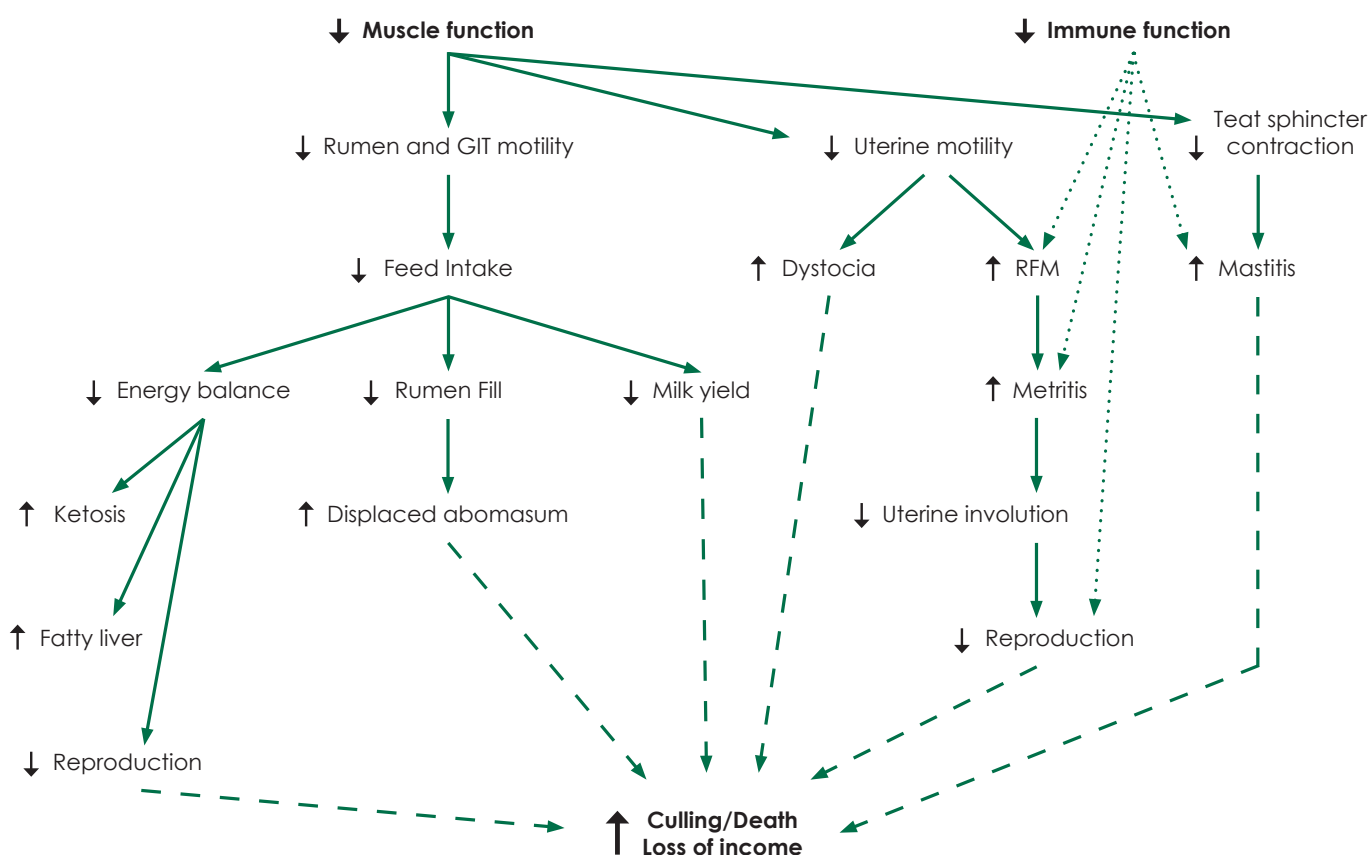
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Definition and Prevalance - Hypocalcaemia

Hypocalcaemia in dairy cows means that blood calcium concentration is below normal (2 mmol/l). Hypocalcaemic cows can be divided into 2 groups, i.e. one with clinical hypocalcaemia, milk fever, and another group with subclinical hypocalcaemia, no clinical signs of milk fever but affected by secondary conditions.

According to US studies clinical hypocalcaemia and subclinical hypocalcaemia have a 6-8% and 60-75% incidence respectively in the periparturient dairy cow (USDA Annual report, 2005 and Oetzel, 1995). These high levels of subclinical hypocalcaemia can occur in herds showing only few clinical cases of milk fever.

Studies have also shown that hypocalcaemia is the initiator in increasing incidence of other metabolic and infectious disorders:



Predisposition to Secondary Disorders

Hypocalcaemia results in a 9-fold increase in ketosis, 6 times more dystocia and a 4-fold increase in left displaced abomasums and retained placenta. In addition, the majority of infectious diseases such as mastitis, salmonellosis etc. are associated or increased by hypocalcaemia (USDA Annual Report 2005, and Oetzel 1995). Massey *et al.* (1993) found that cows with subclinical hypocalcaemia were 4.8 times more likely to have left displaced abomasums regardless of whether they developed clinical signs of milk fever. Because subclinical hypocalcaemia is often untreated, it is possible that it has a greater impact on the profitability of dairy farmers than clinical milk fever.

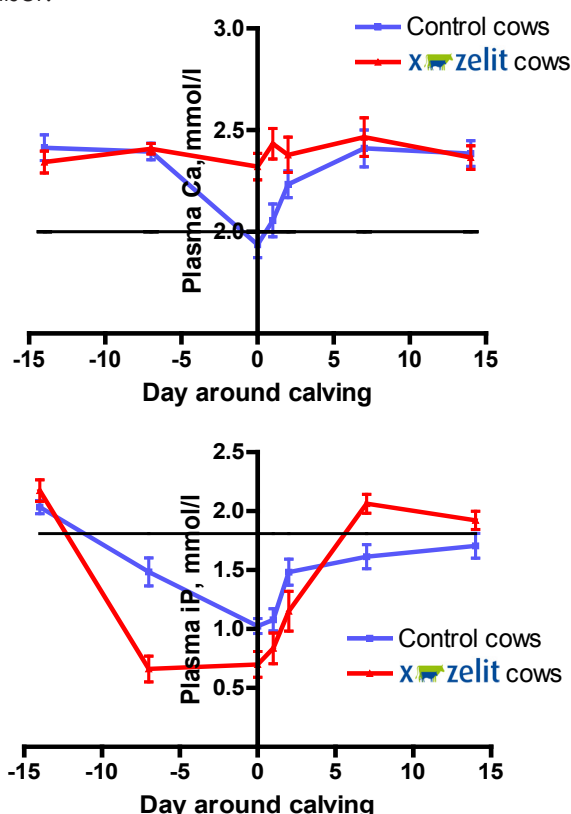
All these related problems have a cost to them:

■ Case of Milk Fever	- £209/Cow
■ LDA	- £500/Cow
■ Retained Cleansing	- £265/Cow
■ Case Metritis	- £132/Cow
■ SARA	- £300/Cow
■ Increased SCC	- £35/Cow
■ Increased Mastitis	- £201/Case
■ Increased Lameness	- £260/Case
■ Increased Calving Interval	- £150/Cow
■ Early Culling	- £760/Cull



The Answer

X-Zelit® is a special formulation of synthetic zeolite and wheat starch. It is a feed additive to be given during the period from 2 weeks before expected date of calving and until actual calving. During this period it will reduce ration Ca availability and temporarily decrease blood inorganic phosphorus. The combination of these 2 effects results in a high efficacy as a blood calcium stabiliser.



The Effects

Work was done by Rolf Jess Jorgensen, Research Professor Dr. med. vet. and Trine Thilising, med. vet. at Faculty of Life Science, University of Copenhagen in 22 dairy herds where the cows in each herd received either no supplement to their diet (control) or a diet containing X-Zelit®. The number of clinical milk fever cases in each herd was recorded.

The number of milk fever cases was 75% lower among the cows (80% lower among the risk cows, from 3rd lactation onwards) receiving daily supplements of X-Zelit® in their diets than among the untreated cows in the same herds.

Improved Milk Yield and Quality

The first trial was then followed up with the work below looking at other benefits being seen on farms where X-Zelit® was being used:

Effects of X-Zelit® supplementation on milk yield, somatic cell counts and diseases/disorders related to hypocalcaemia

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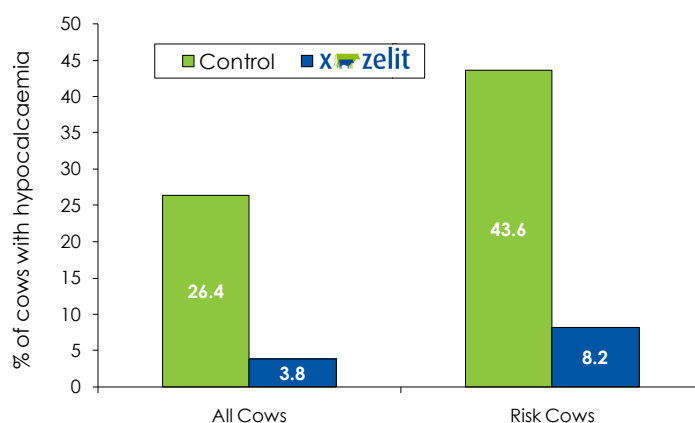
The aim of this study was to establish the effect of X-Zelit® supplementation on the milk yield, somatic cell counts (SCC) and other diseases/disorders.

Materials and Methods: 14 days before parturition animals were divided into two groups; treatment group (n=213 head) receiving 500g of X-Zelit® per head/day and control group (n=217 head) receiving the same diet, without X-Zelit®. Treatment stopped at the first signs of calving. All production parameters were recorded on an individual animal basis.

Results: X-Zelit® supplementation significantly increased in milk yield ($P < 0.05$) by 1.0 litre per animal/day over the 1st 100 days of lactation. Multiparous animals that received X-Zelit® showed a strong tendency to a lower SCC ($P < 0.1$). Incidences of metritis were significantly lower in the treatment group ($P < 0.05$) whilst no significant effects were seen on other disorders.

CONCLUSIONS

1. X-Zelit® significantly reduces both clinical and subclinical hypocalcaemia in dairy cows
2. Added benefits to be seen include an increase in milk yield, a reduction in SCC and a reduction in metritis.



	Untreated Controls	Cows Treated with 500g X-Zelit®	Cases Prevented (per 100 cows)
Milk Fever cases - high risk cows (> 3rd calvers)	34/78 (43.6%)	5/61 (8.2%)	35.4
Milk Fever cases - all cows	(26.4%)	(3.8%)	(22.6%)



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X-Zelit® stimulates the cow's natural hormone system

X-Zelit® contains synthetic zeolite, which binds calcium in the contents of the gastrointestinal tract. The addition of zeolite reduces the quantity of available calcium in feed, thus stimulating the cow's own hormone system to uptake calcium from its bones. This boosts the cow's blood calcium content at the start of milk production just after calving and it strengthens the cow's ability to utilise the body's calcium resources. The stable blood calcium content reduces the risk of milk fever and better equips the cow for future milk production and possible future calving. The provision of zeolite can prevent hypocalcaemia (clinical milk fever and subclinical milk fever), but above all it safeguards the health of the cow by stimulating its natural systems to regulate the calcium content of the blood during calving. X-Zelit® is available as granules to which wheat starch is added to improve taste and consistency. The product has been approved and ratified by the EU authorities.

Together with four of his colleagues vet Jens Philipsen has a veterinary practice which specialises in healthcare advice for cattle herds. Jens Philipsen took part in a 3-year trial project carried out in collaboration with the Stormøllen company and the Veterinary and Agricultural University of Copenhagen, Denmark. The trial involved the testing of the zeolite product X-Zelit® to reduce the risk of milk fever, and it was performed on 22 selected herds. For the trial project Jens Philipsen was responsible for contacts with farm owner Erik Andersen.

The cow's natural system was stimulated

"The idea of adding the zeolite product to feed is to bind the calcium content of the feed to make it unavailable to the cow," Jens Philipsen explains and goes on to say, "This stimulates the cow's natural hormone system to uptake calcium from the bone structure in order to maintain the cow's blood calcium content at safe levels during parturition." If, on the other hand, calcium is made available to the cow through its feed, the animals's own ability to provide itself with sufficient quantities of calcium is reduced and the risk of hypocalcaemia and milk fever increases.

Convincing trial results

Vet Jens Philipsen monitored farm owner Erik Andersen's herd of 100 dairy cows throughout the 3-year trial project. "We in fact achieved significant results during the trial period," he states. As far as farm owner Erik Andersen was concerned, the following results were achieved: 1st year: 28 cases of hypocalcaemia, 6 animals lost. 2nd year: 9 cases of hypocalcaemia, no animals lost. 3rd year: 3 cases of hypocalcaemia, no animals lost. Overall the trial substantiated a reduction of 80% in the number of animals with milk fever in all 22 herds.

The addition of zeolite is not a treatment for milk fever but a prevention method used on dry cows in the period prior to calving. "I am absolutely convinced of the relevance and efficacy of using the zeolite product for the prevention of hypocalcaemia and milk fever," vet Jens Philipsen declares.

Please contact your nearest stockist for more information:

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Vitfoss is a dynamic and innovative Danish company specialized in premixes, the main focus being on production and marketing of vitamin and mineral premixes to the feedstuff industry.

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