

XLVets is a novel and exciting initiative, conceived from within the veterinary profession aimed at supporting UK agriculture as it faces challenges in the 21st century.

We are a group of farm animal committed veterinary practices, and as such our policy is to work together, alongside commercial research and manufacturing companies, to share best practice on advice and disease prevention initiatives so providing the first point of call on health management and consultancy advice and facing up to the plethora of current on-farm consultancy advice other than from the veterinary surgeon. We are interested in the development and creation of markets for the economic advantage and support of our clients' long term future and prosperity.

The aim of the group is to put veterinary surgeons at the heart of their clients' farming enterprises, offering independent and high quality advice alongside other specialist advisers. We are dedicated to the survival and growth of the livestock farming industry and wish to work with like-minded, committed professionals.

We are constantly seeking cost-effective preventative medicines and consumables and looking to advise on best practice.

Our primary aims are 4 fold:

1. To be a primary source of on-farm advice and the central co-ordinating consultant for other farm services for our clients.
2. To be committed to the sharing of current best practice advice to our clients through direct XLVets newsletters and client training, associated with our own high levels of Continuing Professional Development (CPD).
3. To be highly competitive in the health and medicines market with not only Prescription Only Medicines (POMs) but also re-establishing the vet as a primary source for on-farm Pharmacy and Merchants List (PML) and other medicinal and consumable products supported by impartial professional advice.
4. To improve our own efficiencies and reduce our costs by economies of scale over a wide range of practice needs and requirements.



For further Information, please contact your local XLVets Practice.

www.xlvets.co.uk

Committed to UK Farming
EXCELLENCE IN PRACTICE



FACT SHEET 08

MILK FEVER: CAUSES AND PREVENTION

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The average milk yield for the UK national herd has increased by 30% over the last 25 years, and so the demands of lactation now make it extremely difficult for the dairy cow to maintain blood calcium concentrations at calving. Consequently, milk fever has become an important production disease, with an average annual incidence of 4-9% in the UK, and incidences of 60-70% not unknown. Incidences of milk fever tend to vary with age and breed. Jersey cows, for example, are more susceptible to milk fever, probably because of their high milk production in relation to their body size.

The management and nutrition of the cow during the dry period can have a strong influence on the susceptibility of individual animals to the condition.

Clinical Signs

The clinical signs of milk fever include cows that are dull and lethargic, with ears cold to the touch, and stiffness in the legs. In severe cases, the cow becomes recumbent with a kink in her neck, the rumen becomes static, and faeces tend to bulge in the rectum.

These well-recognised signs are due to the rapid decrease in calcium concentrations in the blood which occurs close to parturition. The basic reason for this hypocalcaemia is the inability of some cows to match their rapidly increasing requirements for calcium for milk secretion by absorbing sufficient calcium from their gut or by mobilising calcium from their own skeleton.

Milk fever depresses rumen contractility, and other disorders such as retained placenta, dystocia, displaced abomasums and ketosis are all associated with it.

Due to these periparturient disorders and the effect on the rumen, feed intake can drop and worsen the energy status of the already affected cow. This negative energy balance in the postpartum cow will have a strong influence on subsequent fertility.

Prevention of Milk Fever

Conventional methods for the prevention of milk fever include:

- Restriction of calcium in the prepartum period. This activates the calcium homeostatic mechanisms. This is effective only if sufficiently low dietary calcium levels are fed (<20g/day). However due to the fixed calcium concentrations of forages fed in the prepartum diet, and even with the use of calcium antagonists, manipulation of the diet to low enough calcium levels is not possible.
- Magnesium supplementation at 15 to 20g/day. This needs to be given with a source of easily digestible carbohydrates to encourage uptake.
- Peripartum supplementation of susceptible animals with injectable or oral calcium. This is labour-intensive, time consuming and may even have negative effects as a large depot of calcium can switch off homeostatic pathways. This should not be used as a first line prevention.

The dietary cation-anion balance

It has been shown that prepartum dietary cation-anion balance (DCAB) is strongly correlated to the clinical incidence of milk fever. Reducing DCAB rather than the calcium

content of the prepartum ration is now considered the method of choice for preventing milk fever.

DCAB is defined as:

$DCAB (mEq/Kg DM) = (sodium + potassium) + (chlorine + sulphur)$

The DCAB ration can be easily calculated if the percentage concentrations (in Dry Matter terms) of sodium, potassium, chlorine and sulphur ions are known. A negative DCAB ration causes mild metabolic acidosis, which increases the production of vitamin D3. This has an effect through a series of hormones and pathways to cause an increased mobilisation of calcium from the bone. Due to the induced metabolic acidosis, and a conservation of bicarbonate ions, the urine becomes more acidic, making urine pH monitoring a useful tool for assessing the effect of reducing DCAB.

For a DCAB ration to be successful, close work with your vet and nutritionist is essential. Grass silage analysis must be carried out. Urine pH monitoring has to be done on a regular basis and a sufficient period of time on the diet must occur, at least 3 weeks before calving. If cows are at grass during the dry period, then housing them 3 weeks prior to calving is preferable. If this is not possible then move them to a field which has not received potash and has sparse growth, so as to encourage the buffer feed to be eaten.

Causes or Prevention?

MILK FEVER: CLINICAL SIGNS AND PREVENTION

