

Calcium at Calving

All cows, including first calving heifers, have at least a transient drop in serum calcium levels around calving although very few get clinical hypocalcaemia (milk fever).

Low or depressed levels of calcium in the blood, even for short periods, contribute to the decline in appetite and intake seen at calving. Calcium is required for proper functioning of gut musculature. Any depression of dry matter intake around calving and early lactation can contribute to, or initiate condition loss, that can have ongoing effects on both production and reproduction.

Low calcium is associated with depression of immune function, already under pressure at calving, and increased susceptibility to infection, especially mastitis and metritis. Poor calcium status may delay recovery from any disease.

Low calcium around calving may be associated with delayed or incomplete dilation of the cervix, lack of "push" at calving and delayed or incomplete uterine involution post calving.

Delays in correcting blood calcium levels mean the cow is much more susceptible to clinical hypocalcaemia, and/or its associated problems, in early lactation as more calcium is removed in milk than the cow is able to replace. Complicating factors associated with calcium status at calving and in early lactation can be complex. Magnesium is required pre calving to initiate the physiological processes that enable the cow to be able to call on more calcium from bone reserves and from the diet at calving. Starting magnesium status,

the form of magnesium used, and how much, for how long can be issues in some herds.

Most NZ first calving heifers are under grown, and even supposedly mature cows are often still growing, i.e. using calcium for their own bone growth, not just for the calf or milk production.

Diets low in calcium fed in late lactation and even through the dry period, if not adequately supplemented, mean that many cows do not get to replenish bone calcium reserves before calving. Maize silage, palm kernel expeller meal, cereal whole crop silage, all grain based feeds, some crops, etc contain little or no calcium and need to be supplemented with limeflour **CALCIMATE** in late lactation, and even into the dry period.

Cold wet weather increases calcium usage as does extreme activity. Separating calving or newly calved animals out of the mob with bikes at full speed is extreme activity! Low or marginal phosphate status can complicate things further, as can rumen acidosis and sudden feed changes.

In some cases, calcium may need to be supplemented right up until calving. Discuss with your vet or consultant whether this is necessary for your cows, and how to do it safely.

Getting calcium back into cows as soon as possible post calving is the target to optimise cow health and performance. This is partly what starter drenches are about but a simple drench of 300 grams

CALCIMATE in ½ litre of water at the first milking, which should be as soon as possible after calving, may suffice.

Colostrum cows, regardless of herd status or what else is fed, i.e. traditional grass based system through to wholly supplemented herds, should always get additional calcium as limeflour. 300 grams **CALCIMATE** per cow per day can be added to feed; drenched or pasture dusted. Where large areas are involved for pasture dusting, more than 300 grams/cow/day may need to be used to get adequate coverage. Excess makes fertiliser – it's not wasted!

Calcium requirements for lactating dairy cows based on international recommendations are often inadequate for early lactation NZ cows, as they are determined using confined housed cows, that are fully grown. Calcium requirements for skeletal growth, for protection against adverse weather events and for activity are not adequately allowed for. Much of our dairy herd is Jersey based. Jersey cows have a higher susceptibility to hypocalcaemia than Holsteins. Increased use of maize silage, cereal silages and meals, and PKE exacerbates the need for supplemental calcium, yet too often cows on these feeds are inadequately supplemented, reducing the potential benefits, or worse, having negative consequences for the lactating cow.

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- To maximise milk production potential
- To strengthen their immune systems
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