

José E.S. Matos

Departamento de Ciências Agrárias, Universidade dos Açores

**ABSTRACT**

The most critical time in the life of a dairy cow is the transition period, when she is most susceptible to diseases and metabolic disorders. Hypocalcemia (HP) plays a major role as a 'gateway' disease in this period, increasing the risk of other diseases, including mastitis, ketosis, retained placenta, displaced abomasum and uterine prolapse.

There has been a renovated interest in minimizing hypocalcemia in early lactation cows due to studies that clearly demonstrate the high incidence and detrimental effects of subclinical hypocalcemia, even when the incidence of clinical milk fever is very low.

It is well documented that metabolic acid-base status influences calcium metabolism and that a mild metabolic acidosis increases the availability of blood calcium in periparturient cows. This places a major importance on the use of dietary means to prevent hypocalcemia: Prepartum diets with low dietary cation-anion difference; low calcium, low potassium and high magnesium on the prepartum and the strategic use of oral calcium supplements after calving.

The main objectives of this short review are: to highlight the benefits of improved calcium status at calving; to explain the practical relationship between metabolic acid/base status and calcium status; to recommend a practical procedure to improve calcium status of dairy cows at calving.

**Keywords:** Dairy cow; lactation; hypocalcemia; milk fever; DCAD;