



Dairy Cow Metabolic Problems

Dairy cows have a remarkable ability to convert fodder into human food. A dairy cow is capable of producing twice her carcass weight in milk every year; she is truly a remarkable biological factory.

While lactating, a cow will typically produce 10 to 20 times the amount of milk required to feed a calf. This places a huge demand on her body and greatly accelerates her metabolic rate. To complicate matters further, during late pregnancy a cow's appetite will decrease, the amount of food that can fit into her rumen is less due to the large space taken up by the developing calf and this leads to less energy being available for her needs as well as a poorer availability and absorption of important minerals such as calcium and magnesium.

During lactation, a time of great physiological stress, she will draw on body reserves to cope with the demand. A very fine balance exists between peak production and falling into the trap of developing post-calving complications due to a lack of energy and nutrient resources. There are three main groups of post-calving problems that cows can develop:

Metabolic diseases such as milkfever, grass staggers, ketosis and downer cow syndrome

Reproductive problems such as retained foetal membranes and late return to cycling or infertility and Mastitis.

Milkfever develops due to low calcium levels, especially during the first two days and usually within the first 10 days after calving, but can occasionally occur in the last few days of pregnancy. During the early stage of lactation there is a high loss of calcium in colostrum that is beyond the capacity of calcium absorption from the digestive system and the mobilization of calcium reserves from bones.

Calcium is a mineral essential for the maintenance of muscle tone, as well as nerve health in the body. When cows are deficient, signs of milkfever develop which are a progressive dysfunction of muscles and nerves with sudden weakness, recumbency and later coma and death unless they receive treatment with replacement calcium. Cows who are high butterfat producers and those that are fed on high protein feeds and/or fodder high in calcium and low in phosphorous, such as lucerne, before calving are more susceptible to developing milkfever. High calcium feed after calving is helpful. Stress and fatigue precipitate milkfever attacks.

Low magnesium levels (blood samples can be checked by your vet) increase susceptibility to milkfever and also cause grass staggers to develop which is most common in the two months following calving, again because the sudden demand of lactation outstripping supply. Grass staggers can be triggered by excitement, stress, milking and adverse weather. Signs include excitability, irritability and convulsions.

Both milkfever and grass staggers can be successfully treated if caught early but, as always, prevention is better than cure and, as always, good nutrition as well as herd management are of utmost importance to maintain cows in peak production and to keep them in optimal health. Year-round planned grazing on properly fertilized and well-balanced pastures is imperative and, where necessary, supplements such as magnesium licks or sprays can be used.

Ensuring excellent nutrition, especially in the weeks before and after calving, is a wise investment and will help prevent problems and optimize production.