

## **Monitoring Fresh Cows and Heifers**

Getting cows and heifers off to a good start at the beginning of lactation is extremely important, but can be very challenging. On one hand, good health postpartum sets the stage optimally for good production during the ensuing lactation. A recent study has demonstrated that you can predict with fair accuracy the 120-day milk yield of a cow by using the first 5-day milk average. On the other hand, the tremendous transition dairy cattle make from pre- to postpartum, with the extreme physiological demands of high producing animals, makes fresh cows particularly vulnerable to a range of illnesses. It is also clear that the problems that beset fresh cows compound one another. Cows that develop one problem become more vulnerable to some of the other diseases that also occur soon after freshening. Compared with healthy herdmates, cows with milk fever have been shown to be 23.6 times more likely to develop ketosis, 4 times more likely to retain fetal membranes, and 5.4 times more likely to have clinical mastitis, according to one study. Similarly, left displaced abomasum increases risk of ketosis by 54%, and likelihood to develop uterine infection by 3.6 fold.

While many different diseases occur more frequently in fresh cows, there are 5 fresh cow problems of particular importance. These are ketosis, hypocalcemia, retained placenta, metritis, and displaced abomasum.

Ketosis is a disturbance of energy metabolism. It results when energy demand for milk production exceeds energy supplied by dry matter intake to a degree where the cow has to mobilize body fat stores at an excessive level. Affected cows have low blood glucose, high blood ketone levels, and depressed appetite. These factors reduce production, and increase susceptibility to other problems.

Hypocalcemia is a disturbance of calcium metabolism. It results when calcium demand exceeds the supply provided by intestinal absorption and bone mobilization. Since calcium is required for adequate muscle activity, severely affected cows cannot stand, and are seen as milk fever cases. Less severe calcium problems are still very detrimental, as cows develop poor intestinal activity and uterine tone. Thus, abomasal displacement, reduced gut function, and uterine infections commonly follow this problem.

Retained placenta is more common in cows with metabolic problems and following dystocia. It substantially increases the risk of uterine infections.

Metritis is inflammation of the uterus, and varies in severity from mild disease that decreases reproductive soundness, to severe disease that can threaten the life of the cow. This infectious disease can reduce feed intake and predispose to further metabolic problems.

Displaced abomasum can result from these other disease problems, and can also increase the cow's risk of developing them. By reducing feed intake, it routinely causes other metabolic stresses and reduces productivity.

Ideally fresh cow problems are better prevented than treated. However, even the best management cannot completely prevent fresh cow illness. Like all health problems, if disease does occur, it is better managed early than late, and this is particularly true for fresh cow problems because of the tendency for other diseases to complicate the situation, and because of the long term impacts of disease at the start of lactation. A proactive approach to sick cow identification and treatment is critical, and has the added benefit of helping to identify disease prevalence and thus monitor whether preventive steps are effective or need modification.

The monitoring and treatment protocol provided here was developed by Dr. Lynn Upham, of Veterinarians Outlet in Tulare, CA. It is simple to use, and emphasizes early detection plus treatment that helps minimize the effects of the most common metabolic and infectious fresh cow problems.