

Monitoring for Metabolic Disease in Transitional Dairy Cows



- ◆ Most abnormalities around calving in dairy have a metabolic component. Subclinical ketosis is far more common than clinical disease, hence the problem potentially remains undetected, yet has a significant impact on the subsequent productivity and reproductive performance of affected cows. Negative energy balance, fat mobilisation and subsequent increases in ketone body concentrations play a role in fatty liver syndrome, clinical ketosis and abomasal displacement. A negative energy balance may also increase the risk of retained placenta, metritis and mastitis through impaired function of the immune system.
- ◆ Monitoring non-esterified fatty acids (NEFA) and beta-hydroxybutyrate (BHB) at specific points during the transition period provides a useful tool to identify and treat at risk individuals and also provides a basis for reviewing transitional cow management and nutrition on a herd basis.

Guide to Sampling

PRE CALVING—NEFA estimations

Cows should be sampled from 7 days prior to expected calving date but not within 48 hours of calving as NEFA rises sharply at this time.

POST CALVING—BHB estimations

The primary risk period for sub-clinical ketosis is the first two weeks after calving. Sample 7-14 days after calving.

Further Information

NB Samples for NEFA estimations must be tested within 24 hours of collection

Cows with NEFA values >0.7 mmol/l pre calving have a five fold increased risk of developing subclinical ketosis, as defined by a BHB level of >1.4 mmol/l.

A pre calving NEFA value of >0.5 mmol/l carries a 3.5 times greater risk of the cow developing a displaced abomasum.

A reasonable target to aim for is to have $< 20\%$ of cows with a BHB level of >1.4 mmol/l between 7 and 14 days post calving. Monitor a minimum of 10 cows.

Samples Required

Serum (clotted blood)



NationWide Laboratories

Leeds Laboratory
Gate Way Drive
Yeadon, LEEDS
LS19 7XY

Tel: 0113 250 7556
Fax: 0113 250 0198
Email: lvl@lvlabs.co.uk
www.lvlabs.co.uk