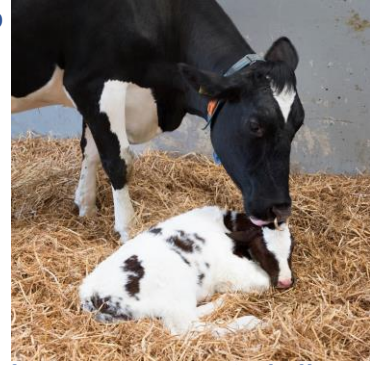


Giving the cow a “GOOD START”

- The transition period is the most important period in the lactating cow’s year, with 80% of disease costs associated with this period¹. For this reason it is essential that every dairy cow gets a good start to their lactation.
- Subclinical hypocalcemia and subclinical ketosis/ negative energy balance (NEB) are the main reasons why dairy cows do not get off to a “GOOD START”.
- Up to 50% of freshly calved dairy cows suffer from one or both conditions during the transition period, this in turn leads to
 - Reduced fertility,
 - Reduced milk yield,
 - Metritis,
 - Mastitis
 - Displaced abomasum ²



- Monitoring the metabolic profile of the herd in the transition period allows effective decision making around prevention and treatment of these transition period problems
 - Low Calcium levels associated with subclinical hypocalcemia
 - Elevated BHB and NEFA levels associated with NEB
 - Low blood urea nitrogen levels associated with poor availability of rumen degradable protein .
 - Albumin levels associated with liver function and long term protein status.
 - Elevated globulin levels can be indicative of chronic inflammation ³

*Many farms are battling the invisible issues of subclinical hypocalcaemia and ketosis. Metabolic profiling can help to identify hidden underlying problems, thereby giving the cow the **best start** possible.*

Metabolic profile testing at Farmlab

Test Code	Description
MEP	Metabolic Profile Ca, Mg, Total Protein, Albumin, Globulin, BUN, β hydroxybutyrate, NEFA.
MME	Mini Metabolic Profile NEFA, BHB, Ca, Mg
TRE	<p>Transition cow package</p> <ul style="list-style-type: none"> 6 X pregnant cows within 10 days of calving. Each sample analysed using MEP profile above 6 X cows 48hrs (+/- 12hrs) post calving. Each sample analysed for calcium 6 x cows 7- 14 days calved. Each sample analysed using MEP profile above <p>*Note: These are minimum recommended numbers, a more accurate herd level assessment particularly in larger herds can be gained by doubling the numbers shown above (extra charges apply)</p>

Optimum values for serum metabolites

Metabolite	Pre-calving	Post calving	Interpretation
BHB	<0.6 mmol/l	<1.0mmol/l	High values indicate negative energy balance and possible subclinical ketosis
NEFA	<0.3 mmol/l	<0.6mmol/l	
Urea nitrogen	>1.7mmol/ l		Low values may be an indication of poor availability of rumen degradable protein
Albumin	>30 g/l		Low values may indicate poor liver function or long term protein deficit
Globulin	<50 g/l		High values may be an indication of an inflammatory condition e.g. lameness/ metritis
Calcium	>2.1mmol/l		Low values indicate hypocalcemia. Note many cows, especially multiparous cows will have calcium values <2.1mmol/l within 24 hours of calving. Cows failing to return to a normocalcaemic state 48hrs post calving have a higher subsequent disease risk
Magnesium	>0.8mmol/l		Low magnesium values indicate inadequate supply of magnesium in the diet and may contribute to problems associated with subclinical/ clinical hypocalcemia

Individual results should not be viewed in isolation. Herds showing more than 15% of cows with values outside the optimum range are at risk of increased disease , reduced milk yield and poor fertility²

- Transition Cow management.** Lean & DeGaris DE Dairy Australia 2010
- Herd-level association of serum metabolites in the transition period with disease, milk production, and early lactation reproductive performance**
Chapinall N et al J. Dairy Sci. 95 :5676–5682
<http://dx.doi.org/10.3168/jds.2011-5132>
- Use of metabolic profiles for the assessment of dietary adequacy in UK dairy herds.** McRae IA The veterinary Record (2006) 159, 655-661