



Peak Milk

Peak milk, at around 100 days into lactation is important as it determines, largely, total lactation potential. Peak milk, effectively puts a ceiling on what we can achieve in total lactation litres.

Everything we have discussed over the past two months articles, dry off body condition score, maintaining cow's weight over the dry period, and lead feeding, all have their goal and fulfilment in peak milk. Lactation persistence is also affected by these preparations too. I have expressed in many previous articles my favourite expression, 'lactation momentum' or 'lactation fly wheel', and peak milk is where it is determined.

Assuming we have achieved all the above goals, BCS 5, dry cow maintenance, and lead feeding, the only limiting factor then becomes dry matter intake after calving. The current season is looking, at this time, very conducive to good dry matter intake in early lactation by virtue of high quality/low fibre pasture being available far earlier than normal.

An early lactation ration needs to meet the following parameters to achieve 20 plus kgs of dry matter intake. We need an energy density of 11.5 – 12 MJME/kgDM, crude protein around 18 – 19%, NDF (fibre) at 32%. Pasture can be at this level of energy and crude protein if actively growing and grazed at 3-leaf stage. However, due to fibre level of this ration dry matter intake would be restricted to about 16kgs in a 550 kg Holstein cow. To ensure good rumen function, and good feed conversion efficiency, we also need good 'rumen mat'. This will further increase fibre causing the ration to be well below nutrient demands of the average cow's genetic potential. Genetic potential must be met with adequate energy or our cow will be forced to mobilise excessive body fat creating liver problems, infertility and general poor health. The result will soon become declining milk production also.

Low fibre, high-energy grain, preferably wheat, is the solution, and the best investment in achieving our peak milk goal and its inherent profit potential.

Over summer this year, we have experienced difficulties enticing cows to eat 1 kg of hay prior to grazing crop. We were trying to get cows to eat this hay for the same reason of 'rumen mat', or 'effective fibre'. Due to crops being very active and in abundance by virtue of good summer rains, cows were reluctant to eat pasture hay prior to crop and as a result we saw many herds with very low milk protein tests indicating poor rumen function and feed efficiency. The problem was only overcome when oaten hay was offered in preference to pasture hay, due to its superior palatability and relative rumen neutrality.

I think we will face similar problems in Autumn due to pasture availability and therefore, again, I highly recommend oaten hay to ensure good 'rumen mat' and feed efficiency through good digestion.

Supplementary by-pass protein is also essential during early lactation to enable cows to reach their peak milk potential. We need by-pass protein at 35 – 40% of crude protein. Pasture cannot provide this level. The addition of canola meal to the grain mix will comfortably meet this need.

Most of my work is centred in balancing rations to ensure the cow has a diet as near as economically possible to the above criteria, optimising her genetic potential and your profit. Dry matter intake is the most common downfall of rations and milk production in Australia. Simply not enough feed on offer to the cow. In a well-balanced ration, and hence full energy utilization, there is a direct correlation between feed intake and milk production. A direct correlation between feed cost and milk returns.

Cows will tell us when things aren't right. Observing your cows is a very profitable pass-time. Following are some parameters to monitor and act on when changes occur.

Daily milk production. Any fall usually indicates insufficient dry matter intake – feed shortage.

BF%. An indicator of fibre in the ration. Falling BF% tells us the cow needs more fibre, if pasture is too lush hay must be added. Every ration should have a minimum of 1 kg of long hay in it **all lactation** for good rumen mat.

Milk Protein % An indicator of 'available' energy. I stress 'available' energy. We have seen many rations over summer by virtue of crops with very good energy levels, yet very low milk protein test due to poor digestion as a result of inadequate 'rumen mat'.

Manure An excellent indicator of rumen function and efficient feed conversion. Pockmarks on manure surface are associated with excess protein, gas in the manure. Good manure consistency is a pat 2.5 cm high, with no 'leafy fibre' or grain in it.

Cow Behaviour Lethargic cows are nutritionally unbalanced cows, aggressive cows are usually underfed.

At the same time we are shooting for peak production we are also try to get cows back in calf. Managing nutrition well will produce exceptional results in both areas.