



Planning Production Profit

The goal of this article is to achieve improved profit by increasing milk production per cow from strategic planning of feeding management. We are not discussing the possibilities of financial manipulation or business strategies, but simply, improving productivity of your dairy enterprise through improved cow performance.

The foundational principle upon which I base all my dairy productivity work is, that as milk production per cow increases profit per cow also increases in a soundly formulated feeding regime. That is, when maximum utilization of feed is achieved. At a production level of 3000 litres/300 day lactation a cow requires 1.26kgs of dry matter per litre of milk produced. At 9000 litres/300 day lactation she requires 0.76kgs dry matter per litre of milk produced. This is due entirely to the dilution factor of feed required for maintenance. She requires the same amount of feed to maintain herself at 3000 litres as she does at 9000 litres. In fact I believe 4000 litres is break even point.

As a result her profit per litre of milk rises rapidly as her milk production increases. It is what I like to refer to as the “productivity momentum” principle.

There is a similar situation with forage harvested (by grazing or machine) per Ha. The higher the dry matter harvested per Ha the cheaper the pasture becomes. The range is wide, from 4-5 tonneDM/Ha to 11-12 tonneDM/Ha in Western Victoria. The implication of this is that some farm's grass costs \$150/tonne and higher producer's grass costs \$80/tonne. However, this is another subject and not what I wish to discuss in this article.

The key to increasing milk production, and hence profit, is to increase the amount of feed a cow eats, dry matter intake. There is a direct correlation between dry matter intake and milk production. Based on this fact there are five simple steps to increase dry matter intake and hence milk production.

Dry Off Body Condition Score (BCS). I like to see cows dried off in BCS 5. Body condition is the first limitation to next lactation. Cows are most efficient at depositing body condition while they are still milking. The risk of ‘fat cow syndrome’ is far less in cows which have gained weight over the last 100 days of lactation. I am convinced by experience that a dry off score of 4 has limited next lactation's milk production by 1000 to 1500 litres. At an average milk price of 25c/litre this is loss of \$250 to \$450/cow of profit. Reduced body condition at dry off translates to reduced lactation performance. She has limited lactation momentum.

Transition Management. Essentially, this is lead feeding cows 14 to 21 days prior to calving with a **quality** lead feed. My recipe for a quality lead feed is to feed 50% of the post calving grain mix, including additives. This is essential, particularly in the case of rumen modifiers like Rumensin and Tylan that they be introduced to the rumen at half rate allowing microflora to adjust over a couple of weeks prior to the full dose after calving. Both will be very beneficial during the transition period also. Grain at half rate will also prepare rumen papillae and microflora for grain digestion and supply needed energy at a time when cows are very often in very low negative energy balance, resulting in ketosis and reduced dry matter intake after calving. Anionic salts are a must in lead feed. They need to produce a negative DCAD of at least -2000msq. This will produce a mild blood acidosis and cause calcium reabsorption to begin prior to calving. The elimination of Milk Fever and LDA's are the goals here.

Peak Milk. We should now have a fresh cow that has had a problem free calving and ready to go. Peak milk occurs around 100 days into lactation; bearing in mind we have also the goal of having her back in calf at this point. Achieving the highest peak possible is essential to maximise total lactation performance. If we can peak her 20% higher than last season we have the potential to lift her total lactation by 20% over last season. This really is the 'fly wheel' of production. The faster we can get it spinning at this time the easier it is for her to keep going. Peak milk is totally dependant on sufficient energy density per kg of dry matter and dry matter intake.

Dry Matter Intake. Now that we our cows producing at 20% or better than last year all we need to do from now on to maintain this increase is to ensure they are fully fed with a balanced ration till dry off time again. If we achieve this they will finish in BCS 5 ready for another high profit lactation.

Ration Balancing. This is my part of your productivity goal. Most of my work is in balancing rations from now to dry off to enable our target BCS of 5. Following this I formulate transition rations to encourage dry matter intake post calving, also check your dry cow ration to ensure cows do not lose condition while dry. This was frequently the case last season and is an even greater risk this coming dry period due to home grown hay most likely to be poorer quality as a result of a late finish to harvest this year. To lose BCS while dry is very expensive management. Balancing rations to reach that peak milk we desire is essential as cows cannot eat enough at this time to meet production needs. After peak milk our attention in nutrition is to maintain dry matter intake over several very different feed situations. Winter's traditional feed hole from mid July to Mid September, then a low fibre spring feed which often is not fully utilized due to too rapid a passage through the rumen, and finally summer's high fibre diets which become very restrictive to dry matter intake. I provide this service on a monthly basis, assessing feeds available and advising on changes to the ration to optimise the cow's production potential. Becoming involved with herds before they dry off enables me to have the greatest impact on your profitability.