



Transition Management

Transition management, as the name implies, is taking a dry cow from dry status to lactation status with minimal or no problems. Any problems at this critical stage will have severe implications on her total lactation performance, and certainly her profitability. As I have stated in past years, there is no greater investment you can make in your profitability than a sound transition management program.

Recapping on the final paragraph of last month's article, generally speaking, home-grown pasture hay is not adequate to supply sufficient energy to maintain a dry cow's body condition and pregnancy unless supplemented with higher quality silage or some grain. Many dry cows lose weight due to poor nutrition while they are dry. The loss of 1 Body Condition Score at this time can equate to a loss of 1000 to 1500 litres of milk next lactation without even considering the impact of metabolic induced disease (ketosis, metritis, milk fever, mastitis) as a result of poor body condition at calving.

There are three goals we aim for in transition management, 1) prepare the rumen for a post calving ration, 2) increase dry matter intake, and 3) increase blood calcium level. The transition period is 14 – 21 days prior to calving.

Preparing the rumen. The wall of the rumen is covered in 'finger-like' protrusions called papillae, and these papillae are the main absorption sites of nutrient to the cow. During the dry period the rumen papillae contract as their roll in nutrient absorption decreases and due also to the removal of grain from the ration. Starch from grain is the only feed to stimulate the papillae, increasing their size and surface area, and hence their capacity to absorb nutrient. Obviously this is essential if we want to maximise milk production after calving.

It is also necessary to prepare the rumen microflora (rumen bugs) for grain digestion. There are many different bacteria for digesting different types of feed. The presence of any particular feed in the rumen signals the specific bacteria to increase in number to digest that particular feed. Hence we need to dramatically increase the grain digesters ready for grain in the dairy. Similarly, any feed additives such as Rumensin or Tylan need also to be present in a lead feed to prepare the specific bacteria for their post calving roll. I recommend feeding 50% of the milking herd's grain ration to springing cows, including 50% of the additives in the lead feed mix.

Increasing Dry Matter Intake. From a 'fully fed' milking ration of 20 kgs of dry matter, the dry cow has dropped to about 10 kgs of intake per day. As a result the rumen has shrunk in size and capacity. This situation is magnified in the last few days prior to calving even to the point of the cow eating nothing in the last 24 hours before calving, predisposing her to ketosis and all the traditional calving diseases. We need to stretch the rumen again in preparation for a far greater daily intake to achieve optimum milk production, but also to prevent calving problems. Similarly, energy and protein intake must increase at this time too for the same reasons. Again, grain is the only way to achieve this increase in dry matter intake and energy and protein density. If we fail to do this, the cow will be forced to mobilise body fat excessively putting her into negative energy balance and predisposing her to ketosis and fatty liver problems.

Increasing blood calcium. Obviously, the cow's requirement for blood calcium at calving is high for milk production. We are only too aware of the consequence in milk fever of inadequate blood calcium. Milk fever however, is only the visible consequence of low blood calcium. Other problems are reduced muscle contraction, the precursor for difficult calving, retained membrane and then uterine infection. Further, due also to poor muscle tension, she is in danger of displaced abomasum. The level of blood calcium necessary to produce muscle tension enabling the abomasum to be pulled back into its correct position is greater than is necessary to prevent milk fever. Anionic salts produce a mild blood acidosis initiating increased dietary calcium digestion and calcium re-absorption from the bones. The addition of anionic salts to the lead feed to produce good blood calcium levels is another essential.

My recipe for a good transition diet is: ad-lib oaten hay, 10 to 12 kgs/cow/day and 50% of the post calving grain ration, 2 to 3 kgs of lead feed grain/cow/day including anionic salts. I strongly recommend oaten hay for its palatability, enabling cows to eat 10 – 12 kgs, also for its relative neutrality in the rumen. It stimulates rumen activity without any adverse effects. Pasture hay is inherently high in potassium neutralising the impact of the anionic salts and inducing milk fever. Pasture hay is also high in fibre and low in palatability and digestibility, countering our goal of increasing dry matter intake. The grain, apart from preparing the rumen for a milking ration will also supply energy and protein for the cow, but also improve colostrum quality and the unborn calf's chances of a good start. I like to see anionic salts produce a minimum DCAD of –2000 meq to be confident of their effectiveness.

Transition management is often, and rightly referred to as a major "Window of Opportunity", don't miss it!