

## **Nutribio Management Information - Sheet 4**

### **Buffer Feeding of Dairy Cows.**

Improved animal efficiency remains the biggest opportunity to maintain the long-term viability of the dairy farm business. The dairy feeding program affects productivity and profitability more than any other single factor. The effects of good breeding and management programs cannot be fully realised without good feeding programs. Buffer feeding is one of the tools that can be implemented as part of an effective feeding programme. Farmers may think that this management tool is only for high yielding cows but in this management leaflet we will give you the results from the UK and New Zealand.

On calving the dairy cow will go into negative energy balance due to the involution of the uterus and the fat around the stomach wall. This period of negative energy balance should be restricted to approximately 14 days post calving, if not excess live weight loss takes place and this will result in anoestrus problems. Where a cow's dry matter intake will at 3% of body weight at this point with increasing yield to peak this will increase to 3.5% of body weight, therefore for a 620kg cow this will give requirements of 18.6 kg DM to 21.7 kg DM. When feeding her indoors this can be achieved but at grass this takes management. Restricting pasture intakes to hold rotation length and maintain pasture quality in the early season may not produce the best food for the cow. At this time, the cow is partitioning much of her intake towards milk production, which puts her in an energy deficit. The cow is like a high performance athlete partitioning energy into performance rather than rebuilding her body.

At Crichton Royal a 3-year research programme funded by the Milk Development Council was completed in 1998. The conclusions from this are as follows. Buffer feeding needs to be carried out under the right conditions otherwise the buffer will be replacing the grazed grass. If the buffer is to be effective it has to increase the total dry matter intake of the cow with as little replacement of the grass as possible. To be effective the buffer feeding will depend on a fine balance between the following factors:

- ~ herbage availability for grazing
- > level of production of the dairy cow
- ~ level of concentrates fed
- > type of buffer feed fed

Buffer feeding is always going to be effective if not enough herbage is available for grazing. Therefore if target grass heights are not being achieved in the field or weather conditions are potentially reducing utilisation then the cows should be buffered. Buffer feeding when enough herbage is available should only be carried out with high yielding cows. If one is milk recording check what percentage of cows are over the average in a month, the average yield could be 28 kg and you may decide not to buffer but on examination 40% of the herd could be over the average. Do not let the average yield decide fully your management strategy. As a farmer said once *'Its not the cow that lets us down but our ability to manage the cow'*. The high yielding cow when buffer fed with enough grass gave a response of 1.3 kg of milk per kg DM of buffer eaten. The problem

for the high producing cow is that she runs out of time.

Lets examine her day, she spends 8 hours grazing, 7 hours ruminating, at least 3 hours walking to the parlour and getting milked and allow 2 hours for social activities. This means she has 4 hours for sleeping.

The quality of the forage and type of forage is important. For a forage to be effective as a buffer the quality has to be excellent with an energy of 11 .5MJ/kg DM. The forage can be blended with cereals to achieve this energy value. The forage with an energy value equal to or greater than 11 .5MJ/kgDM replaced 3 kg of concentrates in the trial at Crichton Royal. The type of forage can be grass silage well preserved, maize silage or whole crop silage. Maize and whole crop silage will usually be available in the spring with whole crop available from September and grass silage can fit in at any time.

New Zealand farmers receive the lowest farm gate price in the world for their milk and have developed low cost systems based on grazed grass with very limited use of supplementary feeds. Prior to 1999 they have had a lot of debate about the merits of supplementary feeds as part of their low cost system. Many believe that by introducing supplementary feeds pasture was being wasted while others maintained that strategic use provided the opportunity for significant increase in profitability. In the New Zealand Dairy Exporter magazine of September 1999 Shirley Macmillan wrote an article 'Nutritional factors affect anoestrus'. Taking the paragraph concluding the article, *'With 46% of cows in recorded herds being culled for fertility reasons, according to Livestock Improvement Corporation statistics, finding out how to prevent anoestrus through nutritional means will not only benefit daiiy farmers, but also the 37,031 cows which are sent to the freezing works each year'*.

Nutribio Nutrition Solutions can supply two products to balance and maximise performance from your buffer.

1. Buffer Mineral formulated to balance both maize and grass silages.
2. TMR —G; this is a liquid formulated to keep the TMR cool prevent mould growth allowing the **TMR** to be made up for three days.

It is high in energy and contains blood precursors to optimise Dry Matter Intake.