

# BioRumen DFM

Improved performance through improved digestion

**A high strength supplement using 11 selected biological compounds sourced by a leading microbiologist in USA. It has been used in Australia since 1998 and Jim Wade a leading nutritionist considers BioRumen DFM the leading rumen enhancer on the market. Its use in New Zealand confirms the following results farmers can expect from using it on their farms.**

*"We started BioRumen DFM 3 weeks prior to the end of autumn lactation and after seeing g an almost immediate change in the dung with significantly less maize being excreted, we decided to start with SuperStart Lead Feed pre calving then BioRumen after calving. Last year was a good year for us, we peaked at 2.6 but this year we were amazed at how fast they got up to 2.6-2.8 on less feed than last year. Even through it was the worst Spring we can remember they have been maintaining this production. Acidosis symptoms completely cleared, there has been an obvious reduction in mastitis, the cows are calmer and there is less dung at milking."*

**John - Mangakino**

**1. Reduced acidosis:** The high dose rate of our yeast stimulates lactate utilizing bacteria. The resulting reduction in lactic acid leads to improved digestion

**2. Eliminate the need for sodium bicarbonate, reduce or eliminate the need for straw:** With reduced acidosis there is improved feed conversion and the passage of digested food through the gut is naturally slower.

**3. Improved Cow condition:** Here is a comment on the use of BioRumen DFM in the spring: *"In the 40 days we used BioRumen DFM starting early September there was a significant improvement in cow condition compared with last year"*

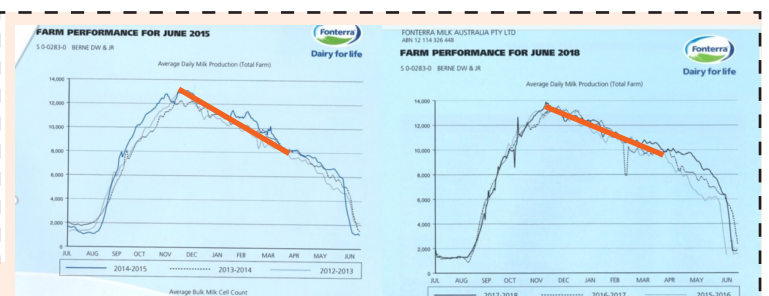
We expect improved cow condition to result in less decline in production from peak production.

*"Cow condition means money. In kiwi herds they always suffer low body condition post peak. We see the same over here in low grain fed herds. This will come back to them in extended lactation curve and next season where they should dry off in a higher BCS!" Allan Hain - Australia*

**4. Improved nitrogen utilization:** By stimulating the population of gut microflora more crude nitrogen in the diet is converted to microbial protein – which is a very high value source of protein for the cow. When dung samples have been taken there has been up to 14% less nitrogen in the dung. Consequently protein rations in diets can be reduced slightly.

**5. Improved milk production:** With changes in climatic conditions, cow condition and pasture supply it is often difficult to compare seasonal production. In these production graphs from Jamie Berne the peak product is up slightly for the three years using BioRumen but the big difference compared with the three year prior to using BioRumen is the slower decline from peak production. In all years the grain feeding rate was 8kg/cow/day. The only difference was that Rumensin and Sodium BiCarbonate were replaced with BioRumen DFM.

**6. Improved fibre digestion:** There is a direct two-fold affect of digestive enzymes targeting cellulose digestion as well as our yeast stimulating cellulose digesting enzymes. That is why cows production will hold well in the summer and we can visually see better digestion of PKE and silage.

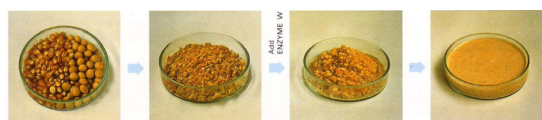


3 years using Rumensin and Sodium BiCarbonate

Following 3 years using BioRumen DFM

## INGREDIENTS:

P7 Active dry yeast | 5 Strains of Probiotic bacteria  
5 Digestive Enzymes | Delivered at 12 billion cfu's/dose



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**7. Improved herd health and herd fertility:** For many farmers these can be issues of serious concern that BioRumen DFM helps address, especially when it is combined with SuperStart Lead Feed prior to calving.

**8. Long term Rumen development:** By stabilizing rumen PH and stimulating better microflora in the whole digestive tract autopsies are showing better rumen development through long term use of BioRumen DFM. Three vets in Australia have performed 3 autopsies and testify to this:

*"I have never in all my professional life seen such a well-developed rumen"*  
Dorrigo Vet NSW.

The next autopsy was done on an Angus heifer that had been fed on the BioRumen from birth and daily in 1kg of grain while on pasture. She dressed out at 250kg at 14 months.

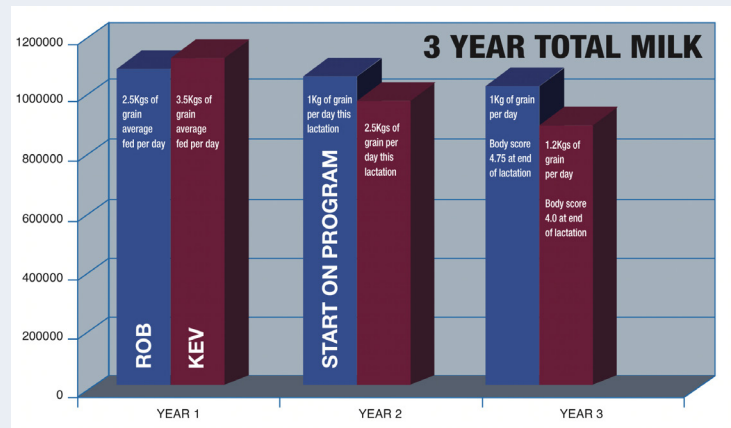
*"The papillae in the rumen were larger and thicker and better developed for a young Ruminant than otherwise would be expected. Enhanced rumen development & greater surface area of the papillae leads to improved absorption capacity from the rumen."* Brisbane Vet

Another autopsy was done on a young cow fed BioRumen since birth. "The development and renewal of rumen papillae depends on adequate nutrient intake. Furthermore the intake of protein and energy-rich feed promotes the growth of rumen tissue, increases the number and size of rumen papillae and enhances the absorption of short chained fatty acids from the rumen of cows (Shen et al 2003).

*This cow's rumen appeared extremely healthy with an extensive population of well developed long papillae as well as a thick internal rumen wall". Whilst the rumen was the main focus of this investigation the three other stomachs were also found to be in very high condition and this trend continued throughout the entire intestinal tract".* Dr Dave Nolan (BVSc) Deloraine Vet Centre Tasmania



**9. Reduction in feed inputs without dropping milk production:** Two year evaluation – South Gippsland. Two farms were split to be identical. Initially Rob's production was lower than Kev's as he fed 1kg/cow/day less grain. Rob reduced grain from 2.5 to 1kg/cow/day with no drop in production until a more difficult summer in the second year. Kev didn't use BioRumen, dropped his meal inputs, dropped production and had to buy in hay. At the end of the evaluation in May Rob's cows had a condition score of 4.75 compared with 4.0 for Kev's cows.



## Key Rumen Shift Indicators

### Dung change

This is the first indicator we look out for, this stage indicates a positive shift in microbial and enzymatic activity within the rumen. If the herd is on a high fibre diet the manure will loosen up and become more pasty. If the herd is on lush rye-grass and the manure is loose, it will tighten up and become more pasty. If there is a lot of grain or fibre in the manure before start up, there should be less observed in this period. With Palm Kernel feeding there should be less grit in the dung. Changes in colour can be observed at this stage also.

### Cud chewing

This indicator shows cows have started to convert more efficiently, cows chew their cud when their blood sugar levels rise to a point that switches on satiety in the part of its brain that controls cud chewing. This does not automatically mean more milk in the tank at this stage, Usually 50% on average will notice a lift in production in this early period as many factors can be at play, stage of lactation, feed availability and body condition. Stale cows will partition extra energy on to their backs, as will cows lacking body condition. If there is plenty of feed the herd may substitute and start to eat higher up the plant or leave feed in the trough, this is where working with our team will guide you through this stage.

### Stronger cycling and heats

You can observe the above in this initial period also, why this happens we do not have a definite answer, but the general opinion is, the cows have more energy and a higher health status. Another interesting observation over the years has been fidgety herds will become calmer in the bail.

### Substitution

If cows are leaving more pasture after grazing: 1. Remove grain or 2. Tighten up pasture availability. This depends on the farmers requirements going forward. If fat slips slightly, more content cows are observed and there is no drop in volume, this can be an indication of substitution. In this case remove the feed inputs as advised.

### Milk Urea Nitrate (MUN) levels

You may notice a drop in your Milk Urea readings. Generally this would be linked to a reduction in your Milk Urea readings. Generally this would be linked to a reduction in crude protein in the feed which would be followed by a drop in protein production. However, due to increased microbial protein conversion, MUN levels can be low while milk protein levels can increase. This is also a positive indicator of reduced nitrate leaching due to lower urine nitrate levels.

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