

# THE REVOLUTIONARY PLAN FOR IMPROVED COW HEALTH AND NURTRITION



## BIORUMEN SUPERSTART LEAD FEED BIORUMEN DFM (DIRECT FED MICROBIAL)

These products use selected high quality ingredients at a high dose rate. They are made from a unique combination of 11 powerful biological compounds sourced from Japan US and Europe:

- 5 selected strains of Probiotic bacteria micro-encapsulated to get to the lower GI tract for improved immune function, and excluding pathogens.
- A specific strain of active live dry yeast. (*Saccharomyces Cerevisiae*) This yeast stimulates cellulose digesting bacteria, improving fibre digestibility, the development of the rumen and the transition to grass.
- A blend of 5 digestive enzymes working on protein starch cellulose fat and pectin. These result in better feed breakdown and more surface area for microbes to work on.

**These ingredients work together synergistically.**

### There are 4 steps to maximising the benefits of using these products in dairy herds:

**1. USE CALF XTREME PROBIOTIC BOOSTER** - to raise superior heifers that will milk better and compete better in the herd in their first lactation.

**2. USE SUPERSTART LEAD FEED FOR 16 DAYS PRE CALVING** - to improve cow health. 80 Billion Cfu's/daily dose.

#### Farmers experiences of improved cow health with Superstart Lead Feed

- Stimulates appetite before and after calving. Cows have more energy at calving with less pulled calves, retained membranes and dead calves.
- Immunoglobulins in gold colostrum are higher.
- The interval from calving to conception is reduced.
- Herd mastitis is often less of an issue at calving with consistently lower SCC counts in early lactation.
- Noticeably less drop in cow condition in early lactation.
- Cows start milking better.
- The specially formulated lead feed is only needed for 16 days pre-calving not the 3 weeks traditionally used with other lead feeds.

#### Why are farmers noticing these health benefits?

The results farmers are reporting when using Superstart Lead Feed can be attributed to its effect in reducing sub-clinical ketosis.

#### Ketosis and impact of elevated levels of NEFA (Non esterified fatty acids) in blood

Ketosis is typically high 1 week pre and 2 weeks post calving with sub-clinical ketosis highest in week 4 post calving and highest in highest producing cows. Due to sudden milk production and cows intake decreasing at calving there is a negative energy balance.

Fat stores are mobilised but not to normal triglyceride (TAG) fatty acids - NEFAs are mobilised. The liver can't cope in converting NEFA to TAG so ketones are produced. The result is Ketosis (clinical and sub-clinical) with lower blood glucose and insulin, decreased milk, loss of LW, staggering, and the appearance of staring. Ketosis then drives milk fever, retained membranes, abomasal displacement, metritis, increased interval calving to first and last service and impaired ovarian function.

#### There are 3 natural adaptive mechanisms that must be maintained in the peri-parturient period to reduce ketosis (Goff & Horst)

- Adaptation of the rumen to high energy lactation diets
- Maintenance of Normocalcaemia (Normal blood calcium levels)
- Maintenance of a strong immune system

*"The incidence of both metabolic & infectious diseases is greatly increased whenever one or more of these physiological functions is impaired."*

**Superstart Lead Feed in conjunction with BioRumen DFM will set-up the cows health and production for the start of the season.** It will also maintain BCS, extend peak milk and improve fertility in the peak lactation period.

#### Nocek trial

**This showed the best results were achieved when DFM was used pre and post calving.** (They used 3 simple probiotic strains. BioRumen contains 11 strong biological compounds, including the three used in this trial).

#### 2b. DRENCH COLOSTRUM COWS WITH BOVINE BOOST FOR 3-5 DAYS

 - 125 billion Cfu's /5gm daily dose.

Bovine Boost is only needed if it is impractical to use Superstart lead feed pre-calving.

**Bovine Boost delivers a potent dose of a bacteria** which has been extensively studied on a genetic and functional level. It has the ability to produce approximately 12 strong anti microbial agents that are potent fighters of opportunistic and harmful bacteria. It offers the ability to support the prevention of harmful bacteria growth in a variety of conditions and also produces a number of nutrients that have systemic health benefits. This bacteria is formulated at very high levels, and in combination with the other ingredients we firmly believe **Bovine Boost** to be one of the most powerful natural alternatives to antibiotic therapy currently on the market.

#### Case study - North Victorian Dairy milking 125 cows.

(Observations reported by Wade Agricultural Consultants)

This farm changed from using a live yeast product and a proprietary pre-calving anionic salt supplement to Biopro Superstart and Biopro base in the dairy ration in August 2013. The difference in the milk price from the previous year based on this change in milk components is a difference of 6.3c/litre. This equates to an extra \$ 4990 per for the month of March at an average of 2555 litres/day.

Milk Components	Butterfat %	Protein %
March 2013	4.03%	3.17%
March 2014	4.47%	3.68%

*"It is difficult to ignore the improvement in herd health in this case study, since it has been so dramatic. This farm has had virtually no health problems in 7 months."*

- Three sets of twins and 7 pulled calves with no retained foetal membranes.
- All cows calved without any metabolic problems and cleaned up after calving.

- Cows maintained better condition after calving due to a higher rumen capacity and strong appetite at point of calving.
- This resulted in extending the peak production period.

Health problem or Metabolic disorder	Jan 2013-Jul 2013	% of cows treated	Aug 2013-Mar 2014	% of cows treated
Cows calved during period	90		45	
Milk fever	12	13.3	0	0
Retained foetal membranes	6	6.6	0	0
Metritis (treated)	21	23.3	2	4.4
Mastitis (treated cows)	30	33.3	0	0
LDAs (possible)	1	1.1	0	0
Calving paralysis	0	0	0	0
Salmonella/Scour	12	13.3	0	0
<b>Total Treatments</b>	<b>82</b>		<b>2</b>	

### 3. 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

### 4. USE BIORUMEN DFM FOR SHORT TERM SAVINGS IN FEED COSTS

- Farmers are cutting down by as much as 1.5kgs/cow/day in feed without dropping in milk production or overgrazing.
- This is due to BioRumen DFM increasing feed conversion efficiency.
- **The savings in feed costs more than cover the cost of the BioRumen DFM.**

#### Short term savings in feed costs (Evidenced in 2-4 days)

- Dung texture stabilises signalling a shift in rumen function – Overcomes sub-clinical acidosis.
- Less undigested fibre in dung. (Due to Rumen stabilisation and increased enzyme action increasing cellulose digestion.
- Increased rumination. (Cows have more efficient feed conversion which raises blood sugars and stimulates cud chewing).

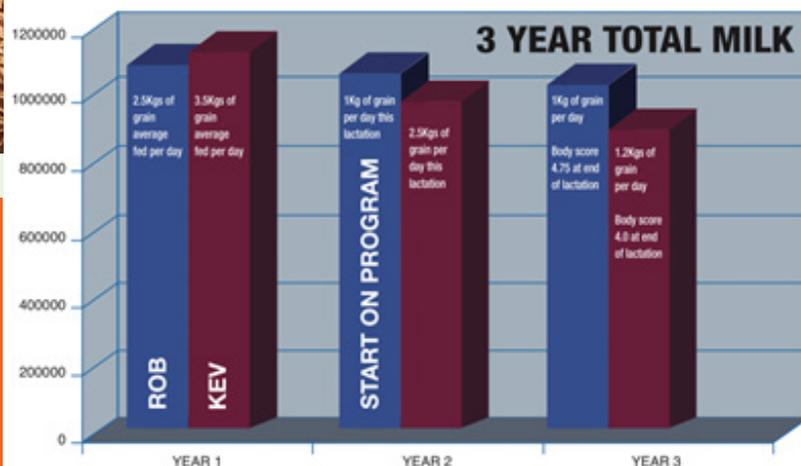
#### Medium to long term benefits

- Improved cow condition, including less decline in condition score in early lactation.
- A longer lactation peak and a slower rate of decline from peak as a result of improved cellulose digestion and retained body condition.
- **This is due to an overall increase in feed conversion efficiency.**

*On feed lots an increase of up to 16% has been recorded*

#### Two year evaluation – South Gippsland

- Two side by side Holstein herds belonging to Kevin and Rob Mcalpine.
- Both milked approx 220 cows each on a farm that was split in two about 8 years before this trial.
- Yr 1, before starting the higher production was from the higher grain inputs.
- Rob stopped using Rumensin and reduced grain by 1.5kg/cow/day with BioRumen added. No drop in production except due to very dry weather at end of year two.
- Kevin stayed on Rumensin reduced grain each year without using BioRumen. Production dropped and year two lost more cow condition than the herd on the program.



Use **Calf Xtreme Probiotic Booster** to revolutionise calf rearing

For more information contact: Chris Collier: 0274 591 061

**PROBIOTIC REVOLUTION**