

BOVINE IMMUNOMAX

A revolutionary approach to using probiotics to improve herd health and control mastitis

"Bacilli present in the udder microbiota of healthy cows can produce a variety of broadly active inhibitors of Gram-positive bacteria, including potential mastitis pathogens."

"Clearly this animal, which maintained low SCC readings throughout the study, persistently harboured a heterogeneous population of inhibitory bacilli within its udder microflora."

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Program and products formulated to control mastitis with high strength probiotics. (For best possible results it is recommended that as many of these treatments as is possible are used.)

1 At drying-off:
Treat medium to high SCC cows with ImmunoMax (10gm/cow/day for 5 days).

2 Pre Calving:
Use Superstart Lead Feed for 12-15 days to springers.

3 Post Calving:
Daily feeding of BioRumen DFM (Direct Fed Microbial).

4 Treat clinical cases with ImmunoMax:
(10gm/cow/day for 5 days).

Note: Other tried and proven control measures such as teat spraying, the use of DCT on the very highest SCC cows, good milking machine maintenance, and culling clinical cases that don't respond to treatment, are still needed. To get the best results from probiotic treatments it is essential that all underlying mineral deficiencies are corrected. For example Zinc and Selenium are needed for a strong immune function, so if these deficiencies are present poorer control rates will be expected. ImmunoMax has also been successfully used to treat a number of other health conditions.

With increasing antibiotic resistance there has been a call to implement other measures to control mastitis. Probiotic Revolution has recognised that specific combinations of probiotics can be used to improve herd health, and have developed products to use to help control mastitis at calving, during lactation, and at drying-off. We achieve this by:

- Sorting out any underlying nutritional issues in the rumen
- Using targeted strains of microencapsulated bacteria to boost the immune system
- Colonising the udder with mastitis inhibiting bacteria

Research into the use of Probiotics for the control of Mastitis.

When a cow has a clinical or subclinical case of mastitis its immune system will be reacting to this by producing antibodies to fight the infection. An initial rise in somatic cell counts is a reflection of this. Scientists have long maintained that an animal's immune system can be stimulated by administering oral doses of targeted strains of live probiotic bacteria. In order to most effectively do this, these bacteria must be micro-encapsulated or resistant to stomach acids to proliferate in the colon of a cow. A University of Otago study also showed that cows with a consistently low SCC have high levels of bacteria present in the udder that inhibit mastitis. Probiotic Revolution is using specific strains of bacteria that not only help boost a cow's immune system but help colonise the udder to inhibit mastitis.

Ketosis and calving mastitis.

There are a number of factors that determine whether cows get mastitis. The general health and nutrition of cows are contributing factors. At calving, for example, a cow's immune system is weakened and metabolic diseases such as milk fever and ketosis also contribute to mastitis. It is common practise amongst dairy farmers to take measures to reduce milk fever, but often little is done to reduce ketosis as it is largely sub-clinical. However the incidence of calving mastitis is correlated to sub-clinical ketosis. The maintenance of a strong immune system is important in reducing ketosis and hence mastitis around calving. (Goff and Horst) This is supported by high doses of probiotic bacteria.

Ketosis is also a result of a cow's negative energy balance and its inability to effectively mobilise fat reserves with the sudden onset of milk production at calving. Elevated blood levels of ketones depress blood glucose levels and this in turn depresses appetite and intake. Probiotic Revolution uses specific probiotic components to counter this by elevating blood glucose levels.

In the Nocek trial the best milk response was obtained when probiotics were started 21 days pre-calving rather than just at calving. This shows that the use of specific probiotics pre-calving are countering sub-clinical ketosis and boosting early milk production.

Case Study 1. John – Inglewood.

ImmunoMax at drying-off

In 2019 and 2020, John drenched 28 and 40 high SCC cows with ImmunoMax for the 5 days prior to drying-off. For these cows, the two years cell counts were 556 and 678 thousand in the treatment groups at drying off. At the first herd test in the spring this was reduced by 40 – 46%. By previously using dry cow therapy John was getting a bigger reduction in cell counts over the same time but was then having to cull many of the treated cows later on in the season. **In the first season after using ImmunoMax at drying off, seasonal mastitis was minimal, so no cows in the treatment group were culled.**

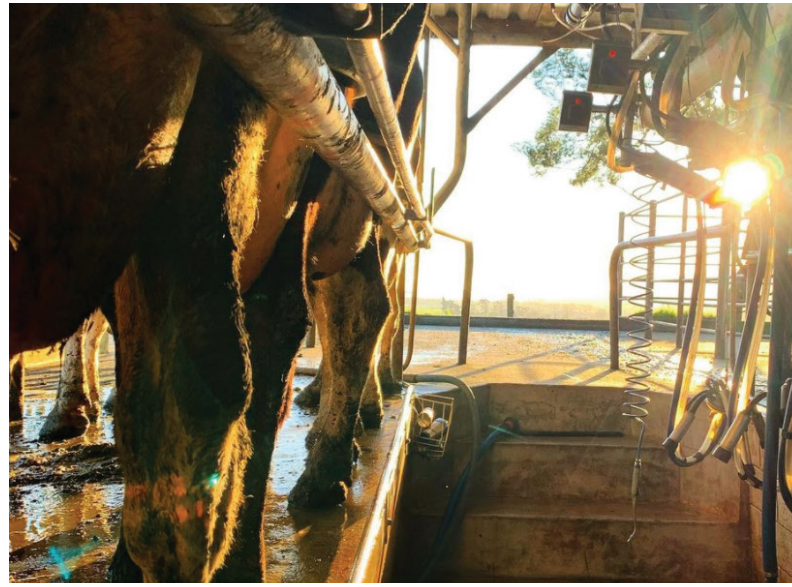
Case Study 2. Phil Froese – Otorohanga.

Treatment of clinical cases

"Because we were transitioning to organic milking we had to get away from using antibiotics.

Up to the end of calving we treated 25 cows and 76 % came right. They were all in the first week of calving so I presume the mastitis was Strep Uberis. The results in heifers was a bit poorer – at 60%. Because they would not have had any exposure to mastitis until calving their immune system would take longer to start fighting the infection than older cows. If I just look at the apparent cure rate excluding heifers then it was 80%.

From the 6th September to the end of October a further 23 cows were treated and 5 needed an antibiotic. I would expect more of these cows to have had Staph Aureus but the apparent cure rate was still 78%. In the following spring the cure rate was only 25%. When we looked into a reason for this we diagnosed a Selenium deficiency in the herd. Selenium is needed for good immune function, so after correcting herd Selenium levels the cure rate increased."



Case Study 3. John – Kaponga.

Probiotics use replaces all antibiotic use for Mastitis.

John first realized how effective probiotics can be when his herd was affected by acidosis from feeding off wind flattened maize in the autumn. "They broke out, got severe acidosis and lost 0.5 – 0.75 in condition score. BioRumen helped this recovery, at calving so we had no acidosis, no retained membranes, half the calving mastitis and a record season."

The next season, out of 360 cows calved they only had 25 cases of mastitis.

All were drenched with an oral dose of probiotic for 4 – 7 days. 24 cows recovered and only one was culled. "You know I had some cows I thought would never come right. One cow had a rock-hard quarter, and when I've treated those cows in the past with antibiotics I'd get maybe a 30% cure rate. With this treatment the quarter was still rock-hard after 5 days – on the 6th day the quarter was starting to soften and by day 7 she didn't have a trace of mastitis."

Because of the results John had, treating clinical cases no dry cow therapy was used at drying off. Instead 77 cows were treated with ImmunoMax.

The only cows with dry period mastitis were in the untreated group. Of the 77 cows treated, only 4 cows came in with calving mastitis.

With an overall SCC similar to last year at 120,000, John is happy to promote this as an alternative to antibiotics. "It's also nice that we don't have to panic about withholding milk and getting caught at the factory if a cow calves early."

Ingredients

P7 Active dry yeast | 5 Strains of Probiotic bacteria
5 Digestive Enzymes | Delivered at 190 billion cfu/dose
for ImmunoMax

Note prices exclude GST

ImmunoMax		Use 10gm/d for 5 days	
Quantity kg	Price	Cow doses	\$/Cow Dose
0.25	\$100	5	\$20.00
1.5	\$550	30	\$18.33
3	\$1,020	60	\$17.00
6	\$1,950	120	\$16.25

Superstart Lead Feed Concentrate		Dose 5gm/ cow / day for 12-15 days	
Price / kg	Daily Cow Doses	cents / cow / day	
\$175	200	87.5	

Case study 4. Cole – Matamata.

SuperStart Lead Feed allows for big changes

With his cows responding well to BioRumen during the milking season Cole decided to use Superstart Lead Feed with dramatic results from his 177 cows.

Only 1 mastitis case compared with around 8 over calving

The SCC in the spring has nearly halved from about 120,000 to 65,000.

Easier calving - only 3 assisted calvings with 3 dead calves.

"I normally milk colostrum cows OAD until they get into their stride. This year they bounced back so quickly from calving that I just put them straight to TAD. They just seem to hit the ground running. I found on day 5 or 6 after calving they were ready to go to peak."

**BOVINE
IMMUNOMAX**

PROBIOTIC REVOLUTION

