

# Pro-Rumi™

Probiotic for Ruminants



Pro-Rumi™

rinbio.com.tr

*Protective*

Pro-Rumi™ is a stabilized beneficial bacteria mixture enables to maintain the gut microflora, homeostasis and improve feed conversion efficiency. It eliminates the pathogens from digestion system and helps to regulate immune system resulting in higher production yields.

# Pro-Rumi™

Use of the MarinBio's probiotic PRO RUMI On Milk Production Under Farm Conditions



## Introduction

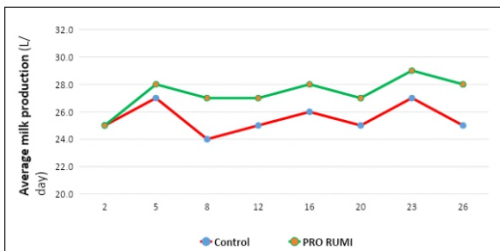
Probiotics are living non-pathogenic microbes and in many cases are also naturally present to some extent in the gastrointestinal tract. Supplementation with probiotics aids in maintaining the gut microflora homeostasis, which improves feed conversion efficiency and ultimately the production performance. The goal of this trial is to measure the impact of the supplementation of PRO RUMI on milk production.

## Materials and Methods

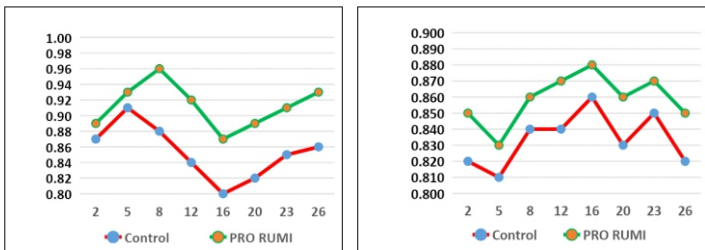
The trial was conducted in a ruminant farm in Efeler, Aydın Turkey, in April to May 2022. For this purpose, 60 Holstein cows \_ average lactation number of 3.9 \_ were divided in two groups, control with a basal diet and a PRO RUMI treatment \_  $2 \times 10^9$  CFU/animal/day by providing 50 mL of PRO RUMI per animal per day. The trial lasted 26 days. The daily milk production, as well as the fat and protein content in the milk were recorded daily, and summarized at the end of the trial. The milk was collected from the farm tank directly, and mixed properly in order to get homogeneous samples. The milk fat and protein content were measured in milk gathering company by Gerber and Kjeldahl methods, respectively. All animals had free access to drinking water during the whole period, the amount of concentrate was restricted and dependent on milk production. The average temperatures during the period was 28 °C. There was no animal decrease during whole period of the trial.

## Results

The average milk production during the whole period is shown in Graphic 1. As shown, the daily milk production increased in 7.6 %. The average milk fat and protein contents are displayed in the Graphics 2 and 3 respectively. As indicated, the milk fat and the milk protein in average increased markedly by 0.06 and 0.03 kg/day in the milk of cows supplemented with PRO RUMI.



Graphic 1: Average milk production of dairy cows supplemented or not with the probiotic PRO RUMI



Graphics 2 and 3: Milk fat (left) and protein (right) production of cows supplemented or not with the probiotic PRO RUMI

## Conclusions

The results of the trial lead to the conclusion that the supplementation with the probiotic PRO RUMI improves the milk production as well as the milk quality, reflected in higher fat and protein content. The continuous use of the product during the whole lactation can result in higher profit for the farms.

Product version	RECOMMENDED USE				
	Application	Unit	Species	Maintenance dose	Dose during treatment
Liquid	Drinking water	mL/ head/ day	Cattle	100	200
			Small ruminants (sheep and goats)	50	100
Powder	Mixed in the complete feed	kg/ t of complete feed	Cattle	20	50
			Small ruminants (sheep and goats)	10	30

## KEY BENEFITS

- Prevents diarrhea problem.
- Strengthens the immune system.
- Suppresses the reproduction of pathogens.
- It enriches the intestinal flora.
- Increases the amount of fat and protein in milk.

## Probiotic, mild organic acid and mineral mixture used as feed supplement for ruminant

### Mode of Action

Ingredient type	Ingredient	Mode of Action
Probiotic	Lactobacillus cellobiosus	Improves the growth performance and digestive enzymes activity in ruminants. Additionally, serum immune responses were significantly enhanced after feeding
	Bacillus subtilis	Beneficially influences intestinal structure and microbial composition, as a result improve nutrients digestibility
	Pediococcus acidilactici	Releases bacteriocin Pediocin SA-1 inhibiting the growth of pathogens
	Lactobacillus brevis	Live cells as probiotics provide high feed and nutrient intake in ruminants with improved protein utilization supported by enhanced post - weaning period
	Lactobacillus paracasei	Enhances the thickness of the colonic mucosa and increase the number of mucin producing goblet cells which improves gastrointestinal tract
	Enterococcus faecium	Resistant to gastric juices and bile salts. It helps in maintaining the activity of lactate -utilizing bacteria and stimulates the growth of rumen microbes by increasing the glucogenic propionate energy supply for ruminants
Enzymes	Lactobacillus plantarum	Improves the aerobic stability of silage and reduces the concentration of mycotoxins
	Alpha Amylase	Eases the digestion of starch molecules
	Beta Xylanase	Hydrolases depolymerizing plant cell component xylan
	Beta Glucanase	Degrades the glucans present in the grain
Organic acids	Protease	Digestion and breakdown of protein molecules
	Acetic Acid	Acidity regulator and extending shelf life
	Formic Acid	Preservative and antibacterial agent
	Citric Acid	Boost acidity, enhance flavor, and preserve ingredients
Minerals	Propionic Acid	Inhibits growth of mold and various bacteria
	Magnesium sulphate	Electrolyte replacement aid
	Potassium phosphate	Increases the milk production and help animals tolerate stress induced by high temperature
	Sodium sulphate	Improves rumen fermentation and fiber digestibility
	Calcium chloride	Influence the electrolyte balance by keeping it stable

PRO-RUMI™ "Probiotic for cattle and ovine nutrition"	
BACTERIAL STRAIN	COLONY (CFU / L)
Lactobacillus plantarum MBS-1P-01 Enterococcus faecium CCM 6226 Bacillus subtilis MBS BS 01 Lactobacillus paracasei 30151 Pediococcus acidilactici 30005 Lactobacillus brevis IFA 92 Lactobacillus cellobiosus Q1	$2.2 \times 10^{11}$
CONTENT (ENZYMES)	
Alpha Amylase	1000 U/Kg
Beta Xylanase	8000 U/Kg
Beta Glucanase	5000 U/Kg
Protease	1000 U/Kg
CONTENT (ORGANIC ACIDS)	
Acetic Acid	5000 mg/Kg
Formic Acid	2000 mg /Kg
Citric Acid	4000 mg /Kg
Propionic Acid	4000 mg /Kg
CONTENT (MINERALS)	
Magnesium Sulfate	800 mg /Kg
Potassium Phosphate	500 mg /Kg
Sodium Sulfate	600 mg /Kg
Calcium Chloride	200 mg /Kg

Package size: 5 and 25kg bags

### Shelf-life:

- Liquid version: 12 months after production date
- Powder version: 24 months after production date

Storage conditions: Dry place at room temperature below 25 °C, avoiding the exposure to sunlight

Note: Do not use during antibiotic treatment, start using after antibiotic application