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Animal Nutrition

RumiBio Commercial Dairy Study, France

Trial Number: 102

Summary

The effect of supplementing RumiBio on performance was evaluated in mid lactation cows on a robotic milking system. A significant increase in milk production was observed with no differences in milk solids.

Objective of the Trial	Evaluating the effect of supplementing the diets of mid lactation cows with RumiBio (20g/h/d)
Trial Duration	12 Weeks
Number of Animals	36 (Control = 18, Treatment = 18)
Stage of Lactation	Mid Lactation (Average of 130 DIM)
Breed	Holstein
Diet	Maize Silage, Haylage, Protein Blend, Dairy Blend, Maize, Hay, Mineral
Summary of Results	Increased milk production 1.4 kg, (*P<0.01*) Increase in ECM 1.5 kg, (*P<0.01*) No significant deference in milk fat% or protein%

Materials and Methods

The trial was undertaken at a commercial Lely robotic dairy unit in France. The trial consisted of 36 primiparous Holstein cows (Control = 18, Treatment = 18). Animals were balanced for parity, milk yield and days in milk. RumiBio was supplemented to the treatment group at 20g per head per day via the protein dairy blend. Data were collected by the robot including individual daily milk production and feed intake. Energy corrected milk (ECM) was calculated using NRC 2001 (ECM= (0.327 x milk kgs) + (12.95 x fat kgs) + (7.2 x Protein kgs)). The duration of the trial was 12 weeks. A two-sample t-test and analysis of variance was performed using R Software.

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Table 1. Diet composition

Ingredient	Inclusion kg (fresh)	Inclusion kg (DM)
Maize Silage (36% DM)	43.00	13.50
Grass Silage (27% DM)	4.00	2.20
Protein Dairy Blend	2.80	2.50
Dairy Blend	2.00	1.80
Maize	1.00	0.90
Hay	1.00	0.85
Mineral	0.45	0.40

Table 2. Concentrate feeding levels per L milk

Concentrate Feeding Levels	28L	31L	34L	37L	40L	43L	46L	49L
Dairy Feed Robot 18% CP / 1 UFL	0.2	0.7	1.5	2.4	3.6	4.3	5.0	5.0
Dairy Feed Robot 42% CP / 1 UFL	0.3	0.3	0.5	0.5	0.6	0.7	0.7	2.2

Table 3. Diet composition

Diet Composition	Results
Net Energy (UFL)	0.92
Net Energy (MJ)	6.4
ME (MJ)	10.4
CP (%)	15.6
Starch & Sugar (%)	23.8
Crude Fibre (%)	19.1
NDF (%)	33.3
DM4 (%)	43.0
Fat (%)	3.3

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Results

Animals supplemented with RumiBio had a significantly higher average milk yield than the negative control group (34.9Kg vs 36.3Kg, *P<0.01*) as shown in Figure 1. Milk Fat and Protein percentages were not significantly different between the negative control and treatment groups. Intake was also not significantly affected between the two groups.

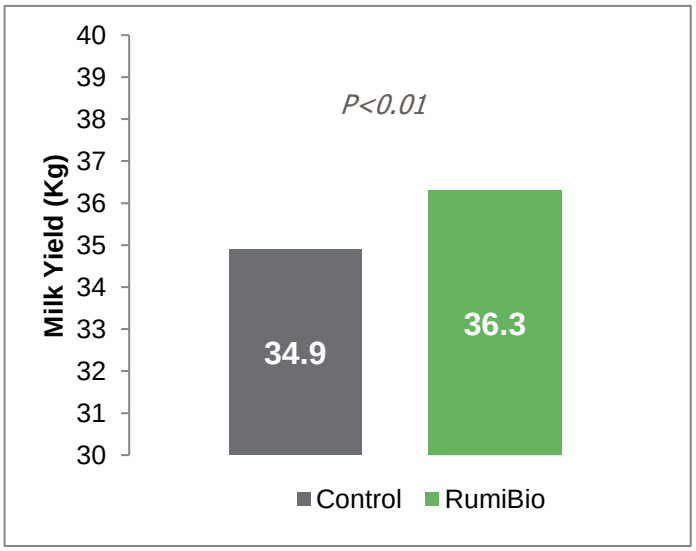

Figure 1. Average milk yield of control group and RumiBio group

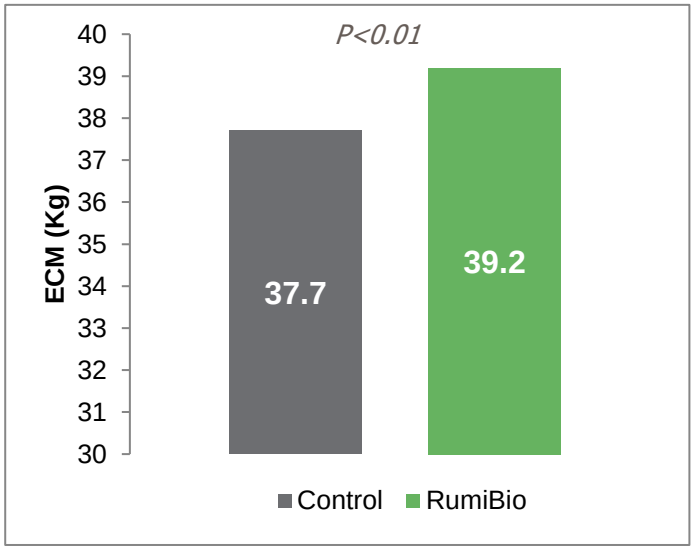

Figure 2. Average energy corrected milk yield of control group and RumiBio group

Conclusion

RumiBio significantly increased milk yield of mid lactation Holstein dairy cows fed a typical northern European diet by 4% (1.4Kg) per day. Energy corrected milk was significantly increased by 4% (1.7Kg) per day.

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