

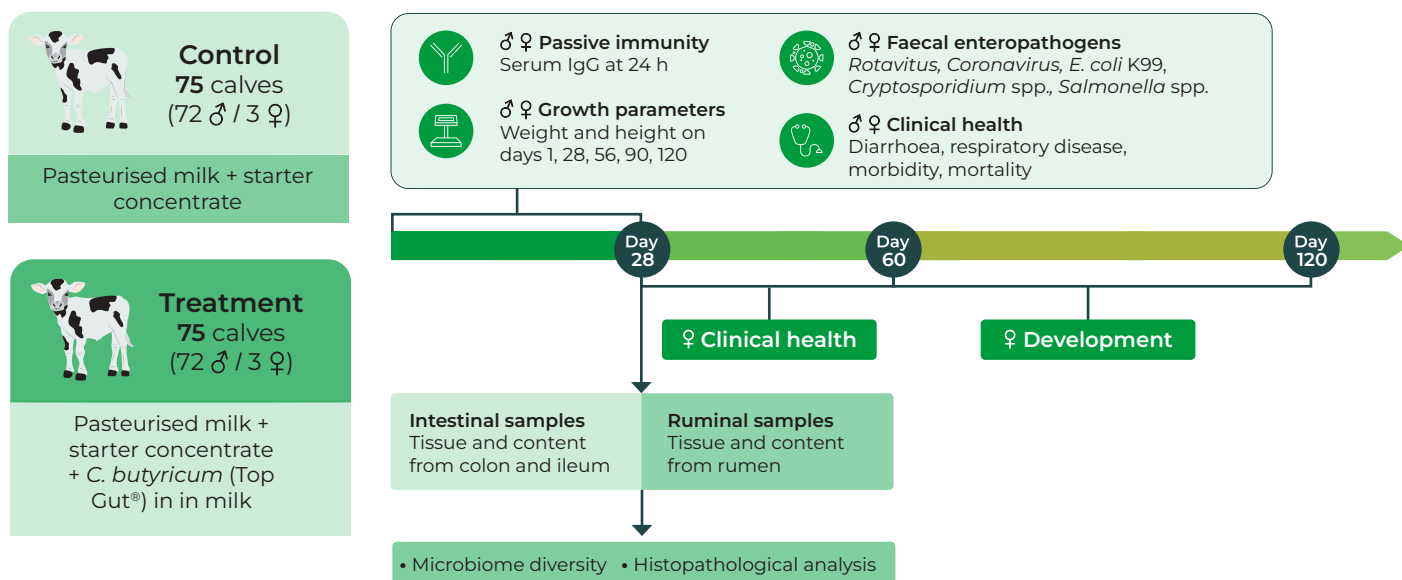


Clostridium butyricum boosts gut health and growth in dairy calves

Objective

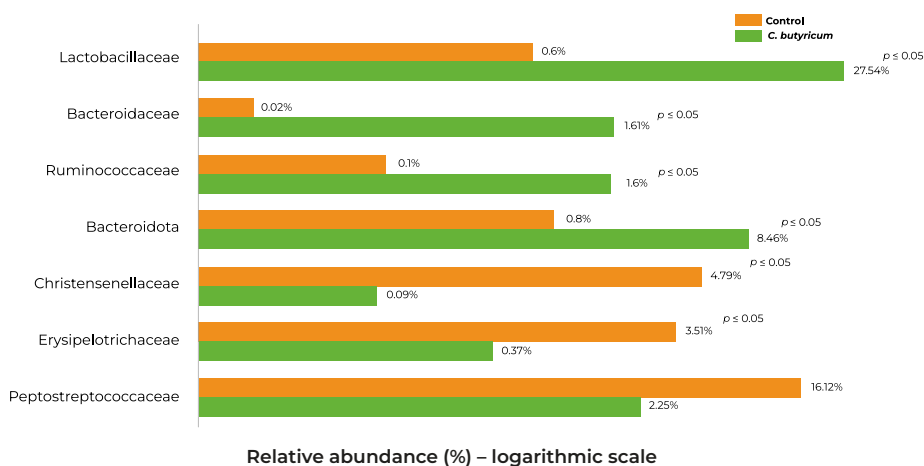
To evaluate the effects of *Clostridium butyricum* supplementation on intestinal microbiota, gastrointestinal morphology and productive performance in dairy calves during the pre-weaning period.

Study design



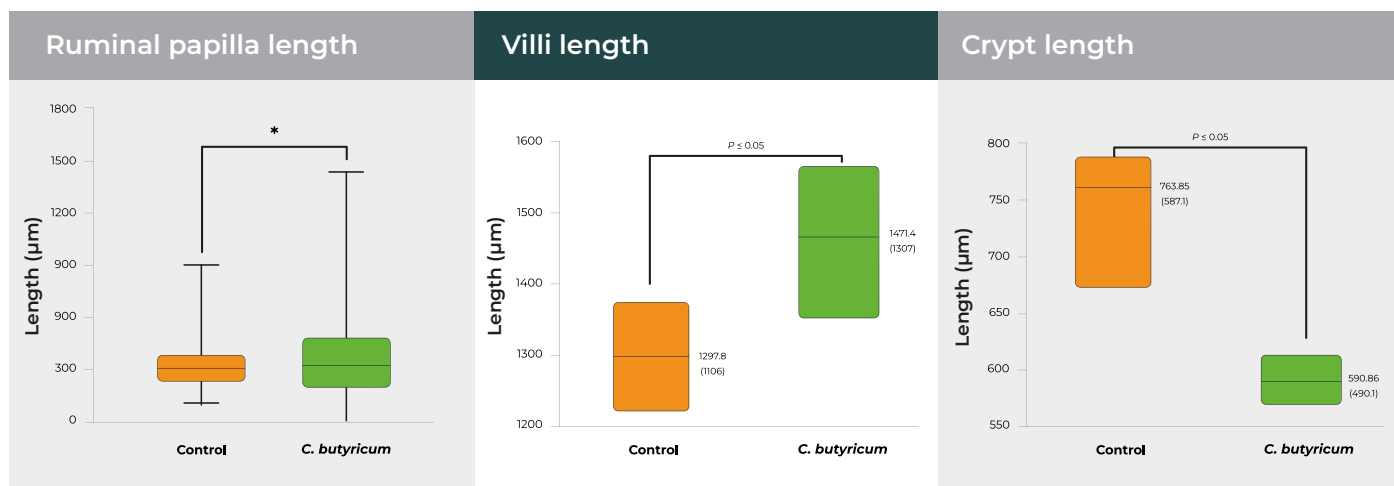
Results

Intestinal bacteria taxa

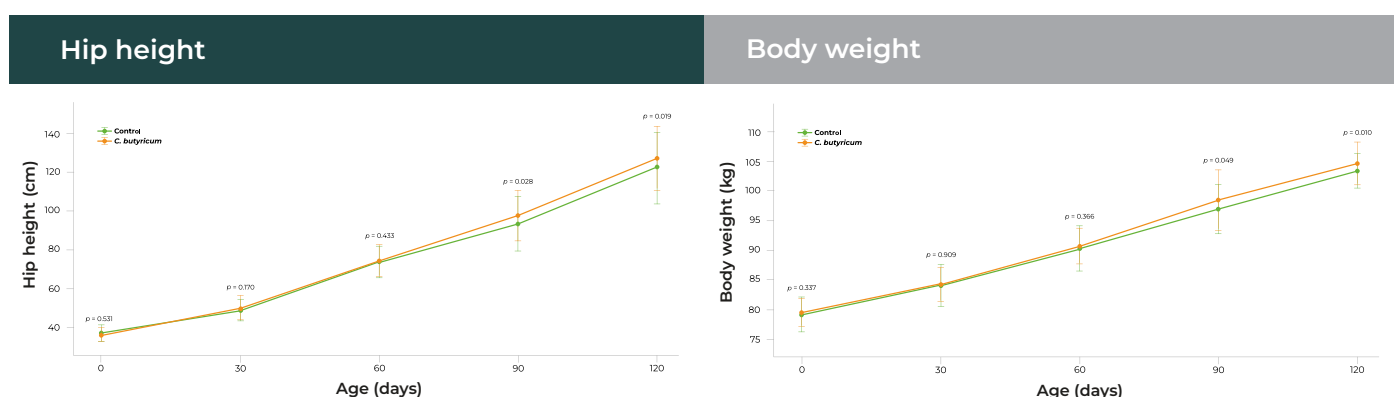


Calves supplemented with *C. butyricum* exhibited significantly greater colonic species richness than calves in the control group ($p \leq 0.05$).

Escherichia coli and *Shigella* were reduced and Lactobacillaceae, Firmicutes (Lactobacillaceae, Ruminococcaceae, Erysipelotrichaceae, Peptostreptococcaceae) and Actinobacteria were increased in the *C. butyricum* group compared with the control group.



Calves in the *C. butyricum* group showed longer and more abundant rumen papillae, and longer villa, deeper crypts and reduced intestinal inflammation than the calves in the control group.



Calves supplemented with *C. butyricum* were heavier and taller ($p < 0.05$) at 60, 90 and 120 days, with higher average daily gains at 30 and 90 days than calves in the control group.

C. butyricum supplementation showed:

- Fewer disease diagnoses
- Reduced pneumonia incidence
- Delayed clinical onset
- Lower treatment costs (€643.61 vs. €823.90)

Conclusions

Clostridium butyricum supplementation is a viable non-antibiotic strategy that helps promote health and productivity in dairy calves.

Compared with the calves in the control group, calves supplemented with *C. butyricum* exhibited:

- ▶ Improved intestinal microbial diversity and balance
- ▶ Enhanced mucosal and ruminal integrity
- ▶ Reduced inflammatory responses
- ▶ Increased growth performance and structural development
- ▶ Reduced antimicrobial treatment costs (21.9% reduction compared with the control group)

References

Vázquez-Flores, S. et al. (2026). Effects of *Clostridium butyricum* supplementation on gut microbiota, intestinal and ruminal integrity, and growth performance in dairy calves. Poster P-167. World Buiatrics Congress (WBC) 2026, Istanbul, Turkey.