TRIAL INFORMATION SHEET

The effect of StartLac Tablet on transition parameters of dairy cows after calving

KEY FINDINGS

The StartLac Tablet applied immediately after calving and 12-24 hours after calving had:

- A **positive** effect on the mineral requirements, especially for Calcium and Phosphorous levels.

Compared to two competitor products.

INTRODUCTION

The objective of the trial was to evaluate the proactive effect of AHV StartLac Tablet on Calcium, Magnesium, Phosphorous and energy parameters. In comparison with two competitor products.

Cows eat 10-30% less on the day of calving and around calving they do not eat at all (Antanaitis et al., 2023). Combined with an increased need for macro minerals such as Calcium, Phosphorus and Magnesium after calving, this can sort into a shortage of macro minerals. This results in 25% of cows in the first lactation up to 51% of multiparous cows still having a mineral deficiency 48 hours after calving (Reinhardt et al., 2011). This leads to reduced rumination and reduced animal performance in the first 100 days of lactation. An individual case costs: €180 (Katrin Mahlkow-Nerge et al., 2010).

In addition, a cow faces another risk during calving. 80-90% of cows have a uterus invaded with harmful bacteria after calving (Depreester, 2016). This leads directly to a reduction in milk production as more energy has to go to the immune system. In addition, this invasion can lead to a biofilm, which ensures that the uterine wall is not nice and smooth. This reduces the cow's fertility in the short term or in subsequent lactations (Husnain et al., 2023).

RECOMMENDATIONS *(AHV protocol)*

AHV focuses on proactively supporting dairy cows through the transition and calving. To increase the feed intake and lowering the risk of metabolic challenges. By ensuring that bacterial invasions are avoided and removed from the body gets cows cleaner faster and earlier into the next cycle.

AHV recommends applying Metri Tablet, StartLac Paste or StartLac Tablet (repeat tablet 1x after 12-24 hours) and Aspi Tablet immediately after calving as part of the proactive Transition and Uterine Health & Fertility Program. For improved conception rates, reduced open days and calving interval, better uterine health, and lower culling rate.

RESULTS

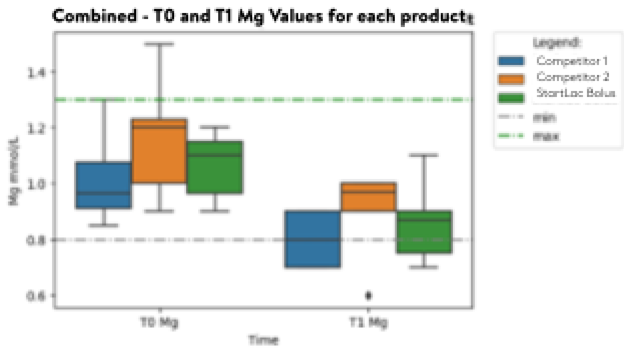

Figure 1: Effect on **blood Ca** (mmol/L) from 0-6h (T0) to 96h (T1) after calving.

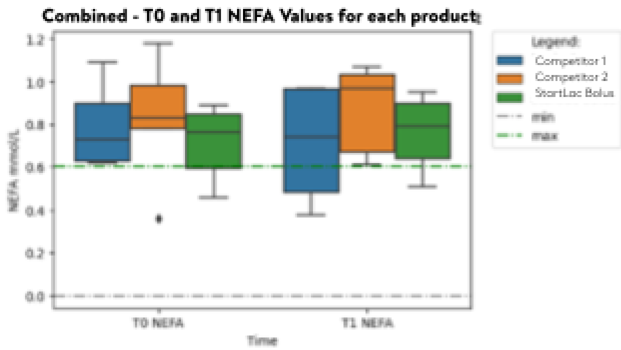

Figure 2: Effect on **blood IP** (mmol/L) from 0-6h (T0) to 96h (T1) after calving.

TRIAL INFORMATION SHEET

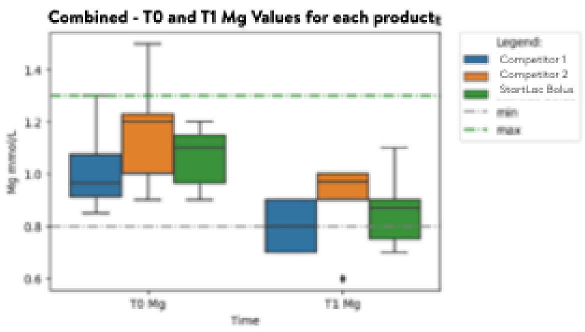

Figure 3: Effect on **blood Mg** (mmol/L) from 0-6h (T0) to 96h (T1) after calving.

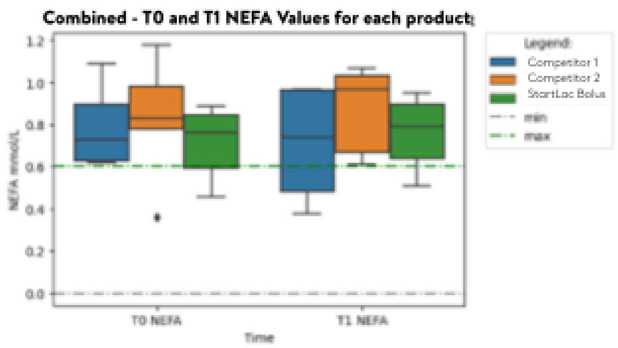

Figure 4: Effect on **blood NEFA*** (mmol/L) from 0-6h (T0) to 96h (T1) after calving.

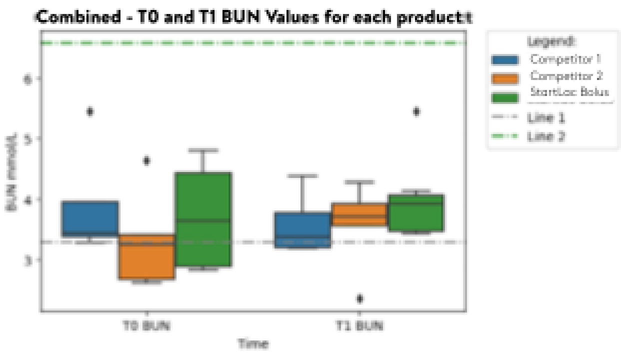

Figure 5: Effect on BHB* (mmol/L) from 0-6h (T0) to 96h (T1) after calving.

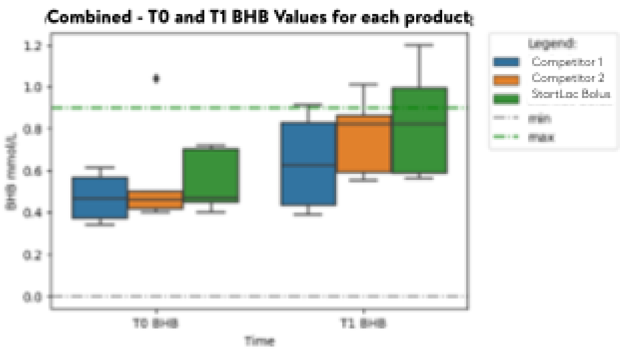

Figure 6: Effect on **BUN*** (mmol/L) from 0-6h (T0) to 96h (T1) after calving.

*NEFA: non-esterified fatty acids
*BHB: beta-hydroxybutyrate
*BUN: blood urea nitrogen

These three parameters reflect the energy status of the cow

TRIAL FARM INFORMATION

Date: 06.03.2024	Doc Version: 1.00M
Location: 3 farms in The Netherlands and Belgium	
Type of parlor:	1 conventional farm with 1 milk robot, 1 conventional farm with carousel milking parlor, 1 conventional farm with traditional milking parlor

TRIAL SCOPE

Trial took place from January 2024 to February 2024.

24 cows were selected for the trial. 9 cows received StartLac Tablet, 8 cows received Competitor Product 1, 7 cows received Competitor Product 2.

N°	Treatment Name	Formulation type	Application rate	Number of applications	Time of Application	Method of application
T1	AHV product StartLac Tablet	Tablet	1 application directly after calving, 1 application 12 – 24h after calving	2	1 application directly after calving, 1 application 12 – 24h after calving	Oral
T3	Reference product Competitor Product 1	Bolus	1 application directly after calving, 1 application 12 – 24h after calving	2	1 application directly after calving, 1 application 12 – 24h after calving	Oral
T4	Reference product Competitor Product 2	Liquid	1 application directly after calving, 1 application 12 – 24h after calving	2	1 application directly after calving, 1 application 12 – 24h after calving	Oral

Measurement parameters:

- Lactation number
- Ca mmol/L
- IP mmol/L
- Mg mmol/L
- NEFA mmol/L
- BHB mmol/L
- BUN mmol/L

Measurements were taken 0-6 hours and 96 hours after calving.

LITERATURE

Antanaitis, R., Juozaitienė, V., Džermeikaitė, K., Bačėninaitė, D., Šertvytytė, G., Danyla, E., Rutkauskas, A., Viora, L., & Baumgartner, W. (2023). Change in Rumination Behavior Parameters around Calving in Cows with Subclinical Ketosis Diagnosed during 30 Days after Calving. Animals, 13(4), 595. https://doi.org/10.3390/ani13040595

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