Sprayfo Technical bulletin

A LifeStart feeding schedule with Sprayfo Delta results in great calf performance

LIFESTART
SETS LIFE PERFORMANCE

trouw nutrition
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Introduction

The quality of early life nutrition in dairy calves has a big impact on pre-weaning daily gain, preparing heifers for optimal lifetime production[1,2,3,4,5,6,7,8,9,10,11,12]. Several authors have shown that a LifeStart feeding schedules improves fertility and reduces culling rate later in life, making it one of the drivers of an increase in average life-time daily gain[6,12].

Sprayfo Delta is an energised calf milk with an elevated level of fat, designed with whole milk as the reference. The effect of a LifeStart feeding schedule with Sprayfo Delta on growth and health of calves was compared to feeding pasteurized whole milk according to the same feeding schedule. The trial was carried out at the Ahrenshagen research centre in Germany.

Study design

A group of 40 calves was fed Sprayfo Delta or whole milk from birth until they were weaned at 63 days of age. The first 2 weeks, the calves were housed in single hutches and fed a total of 9 litres of Sprayfo Delta or whole milk with teat-buckets. After 2 weeks, they were moved to group housing were milk feeding was supplied by an automated milk feeder.

The calves were housed in 2 groups of 20 calves each. In both groups, half of the calves received Sprayfo Delta, the other half pasteurized whole milk. All calves were allowed to drink 10 litres of milk per day from day 15 to 42, after which the allowance was gradually reduced to 1.5 litres per day on day 63, the day of weaning. Both groups had ad libitum access to water and starter feed. Calves were weighed weekly until they were 70 days old. Health parameters were recorded.

Results

The amount of Sprayfo Delta consumed over the entire period of 63 days was 65.6 kg per calf. The control group consumed the same amount of pasteurized whole milk. Average daily gain was excellent in both groups, ADG in the Sprayfo Delta group was 836 g/day vs. 801 g/day for the whole milk group. At day 70, the calves in the Sprayfo Delta group had grown 2.2 kg extra compared to the whole milk group (see Figure 1).

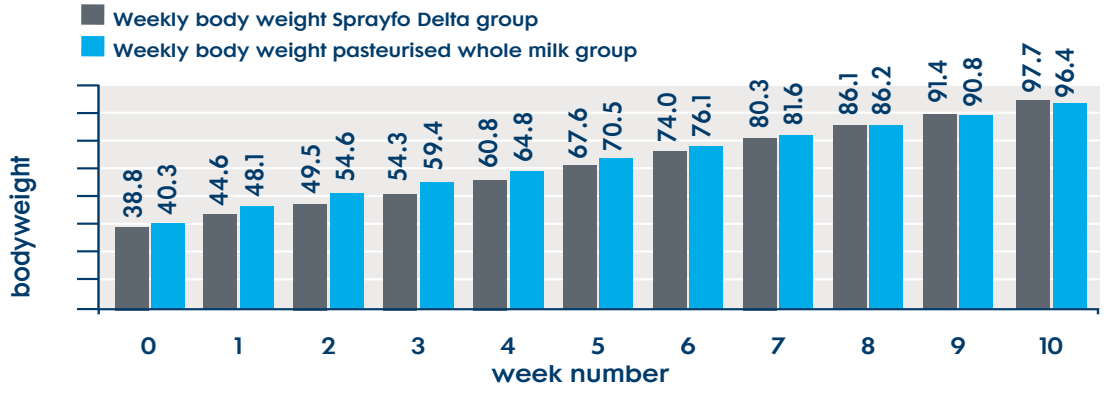


Figure 1: Average bodyweight of a group of 20 calves fed Sprayfo Delta compared to a group of 20 calves fed whole milk for 63 days.

Small differences in health parameters were found but they were not statistically significant (see Table 1).

	Sprayfo Delta	Whole milk
Lung problems (%)	15.8%	19.6%
Diarrhoea (%)	7.6%	8.9%

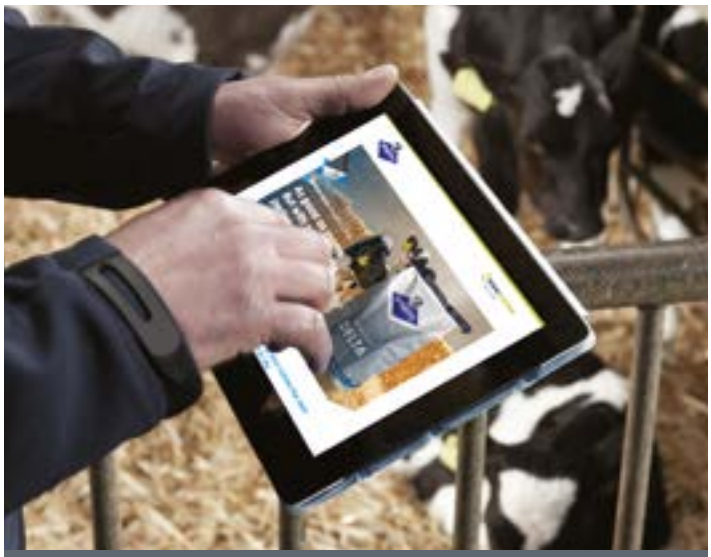
Table 1: Health parameters of a group of 20 calves fed Sprayfo Delta compared to a group of 20 calves fed pasteurised whole milk.

Conclusion

Calves fed Sprayfo Delta performed slightly better than those fed pasteurised whole milk. Both groups had an average daily gain of more than 800 g/day, preparing them for optimal lifetime production. LifeStart sets life time performance!

References

1. Faber, S. N., Faber, E.N, McCauley, T.C. and R. L. Ax. 2005. Case study: Effects of colostrum ingestion on lactational performance. *Prof. Anim. Sci.* **21**:420–425.
2. Pyo, J, 2018, Effects of Delayed and Extended Colostrum Feeding Strategies on Small Intestinal Growth in Neonatal Holstein Bull Calves, *MSc Department of Agricultural, Food and Nutritional Science, of Alberta.*
3. Davis Rincker LE, VandeHaar MJ, Wolf CA, Liesman JS, Chapin LT and Weber Nielsen MS, 2011, Effect of intensified feeding of heifer calves on growth, pubertal age, calving age, milk yield, and economics. *J. Dairy Sci.* **94**:3554-3567.
4. Moallem, U., D. Werner, H. Lehrer, M. Zachut, L. Livshitz, S. Yakoby, and A. Shamay. 2010. Long-term effects of ad libitum whole milk prior to weaning and prepubertal protein supplementation on skeletal growth rate and first-lactation milk production. *J. Dairy Sci.* **93**:2639–2650.
5. Raeth-Knight, M., H. Chester-Jones, S. Hayes, J. Linn, R. Larson, D. Ziegler, B. Ziegler, and N. Broadwater. 2009. Impact of conventional or intensive milk replacer programs on Holstein heifer performance through six months of age and during first lactation. *J. Dairy Sci.* **92**:799–809.
6. Drackley, J. K., B. C. Pollard, H. M. Dann, and J. A. Stamey. 2007. First-lactation milk production for cows fed control or intensified milk replacer programs as calves. *J. Dairy Sci.* **90**(Suppl. 1):614.
7. Terré, M., C. Tejero, and A. Bach. 2009. Long-term effects on heifer performance of an enhanced growth feeding programme applied during the pre-weaning period. J. Dairy Res. 76:331–339.
8. Soberon F, Raffrenato E, Everett RW and Van Amburgh ME. 2012. Preweaning milk replacer intake and effects on long-term productivity of dairy calves. *J. Dairy Sci.* **95**:783-793.
9. Meale, S.J., Leal, L.N., Martin-Tereso, J. and Steele, M.A., 2015. Delayed weaning of Holstein bull calves fed an elevated plane of nutrition impacts food intake, growth and potential markers of gastrointestinal development. Animal Feed Science and Technology 209: 268-273.
10. Castells, Ll., A. Bach and M. Terré. 2015. Short- and long-term effects of forage supplementation of calves during the preweaning period on performance, reproduction, and milk yield at first lactation. *J. Dairy Sci.* **98**: 1-6
11. Khan, M. A. Lee. H.J, Lee, W.S, Kim, H.S, Kim, B, Ki, K.S, Ha, J.K, Lee, H.J, and Y.J. Choi. 2007. Pre- and Postweaning Performance of Holstein Female Calves Fed Milk through Step-Down and Conventional Methods. *J. Dairy Sci.* **90**: 876-885.
12. Bolt, A. 2019, Meta-analysis to calculate the effect of rearing intensity on functionality of dairy cows, Research paper Mecklenburg Vorpommern Landesforschungsanstalt für Landwirtschaft und Fischerei.



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