MAPLEVIEW
AGRI LTD.

RESEARCH SUMMARY

Future Performance Research Summary

A trial was conducted at the Mapleview Agri Future Performance Research Center to evaluate the impact of Mapleview Agri's Future Performance pillars in milk replacer formulation. These pillars include Canadian Skim Milk Powder, Balanced Medium Chain Fatty Acids, Prebiotics, and Emulvion for improved fat mobilization. The objective of the trial was to compare these proven technologies against industry-standard "least-cost" formulations, which have been widely used for milk replacers over the years. At Mapleview, our goal is to formulate the highest quality milk replacers for calf health and performance while selecting validated technologies and ingredients that provide the best return on investment.

Research results show significant improvements in overall growth as well as a reduction in diarrhea. The Future Performance pillars contribute to healthier calves by enhancing gut health, supporting immune function, and optimizing nutrient absorption. These improvements have long-term benefits, as healthier calves in early life are more likely to develop into high-performing lactating cows with improved feed efficiency, higher milk yields, and greater overall lifetime productivity.

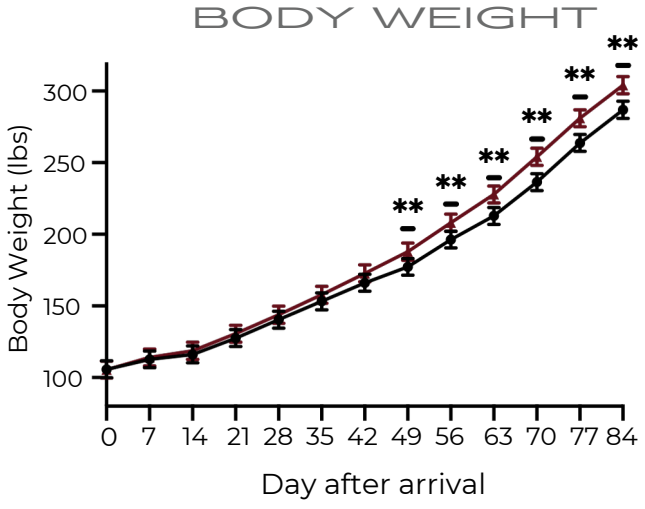
METHODOLOGY

The study enrolled 128 calves at the Mapleview Agri Future Performance Research Center. The trial compared an all-milk formulated milk replacer balanced using the Future Performance pillars to a least-cost all-milk milk replacer commonly found in the market. The trial lasted for 84 days, during which calves were monitored for growth and performance. Calves were housed individually for the first 63 days and paired for the final 21 days of the study. Solid feed and water were provided ad libitum, with intake recorded along with weekly body weight measurements. Health metrics such as fecal consistency and respiratory symptoms were monitored twice daily.

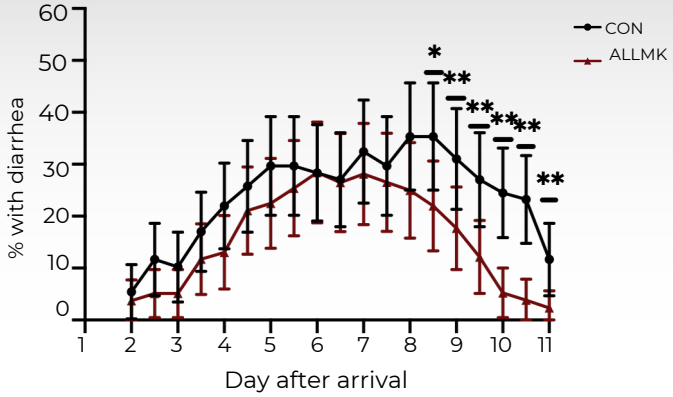
Treatment Groups:

- Future Performance Formula: All-milk-based replacer incorporating Future Performance Pillars.
- Least-Cost Formula: Standard industry all-milk-based replacer formulated using least-cost principles.

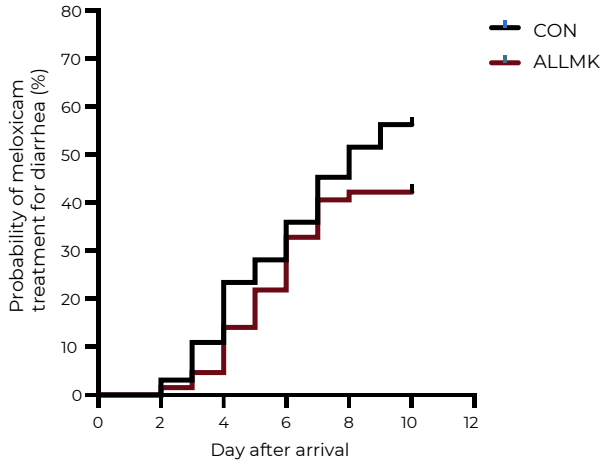
DAILY MILK REPLACER FEEDING RATE	DAY 0-13	DAYS 14-20	DAY 21-41	DAY 42-48	DAY 49-55	DAY 56-63
	650g- 5L	780g-6L	1040g-8L	780g- 6L	520g- 5L	260g-2.5L



Calves fed the Future Performance Formula had gained 16lbs more body weight by weaning at day 63 and 17.6lbs more over the 84 day (P=0.02).



Calves fed the Future Performance Formula experienced less diarrhea when compared to the Least-Cost Formula between days 8-11. (P=0.01)



Calves fed the Future Performance Formula also tended to be less likely to need an NSAID when compared to the Least-Cost Formula. (P=0.07)

TRIAL CONCLUSION

Not all milk replacers are created equal. By combining our Future Performance pillars–Canadian Skim Milk Powder, Balanced Medium Chain Fatty Acids, Prebiotics, and Emulvion–calves demonstrated significantly higher growth rates and lower rates of diarrhea. With data from over a decade of research at our Future Performance Research Center, we have developed the highest quality milk replacer.

The long-term implications of these improvements extend beyond the pre-weaning period. By ensuring optimal early-life nutrition through high-quality ingredients and proven technologies, we are **setting the foundation for healthier, more productive dairy cows**. Improved growth rates contribute to earlier breeding readiness, stronger skeletal development, and enhanced immune function, all of which translate into better first-lactation milk yields and overall herd longevity. Additionally, reducing diarrhea not only decreases veterinary costs and mortality risks but also enhances **overall farm efficiency and profitability**.

Calves with diarrhea produce 325 kg (717 lbs) less milk in their first lactation. Calves in the Future Performance Formula group had a 14.1% lower incidence of diarrhea (in oral meloxicam treatment) compared to the Least-Cost Formula group (42.2% vs. 56.3%), which could result in an estimated 4,582.5 kg of additional milk in the first lactation per 100 calves. At a milk price of $1.05/L, this translates to $4,811.63 in additional revenue.

For growth, every 100 g/day increase in preweaning ADG corresponds to approximately 130 to 150 kg more milk in the first lactation. Calves in the Future Performance Formula group gained 0.21 lbs/day (95.25 g/day) more than the Least-Cost Formula group during the preweaning period, which is estimated to contribute 124 to 148 kg more milk per calf in the first lactation. At a milk price of $1.05/L, this equates to $12,921 to $15,421 in additional revenue per 100 calves.

Investing in high-quality milk replacers is an investment in the future success of the dairy operation, reinforcing that early nutrition plays a crucial role in maximizing lifetime performance and economic returns.