MAPLEVIEW
AGRI LTD.

RESEARCH SUMMARY

Medium Chain Fatty Acid Levels in Milk Replacer

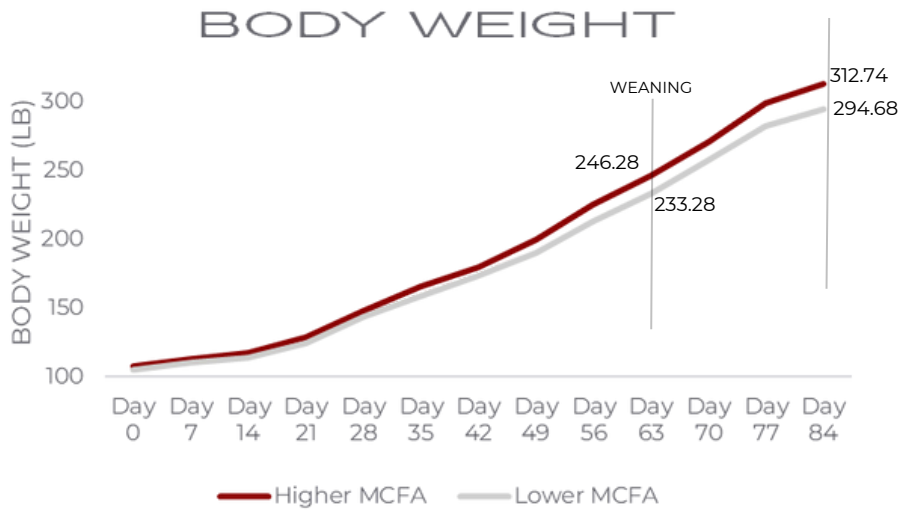
This trial, conducted at the Mapleview Agri Future Performance Research Centre, aimed to evaluate the effects of different inclusion levels of Medium Chain Fatty Acids (MCFAs) in milk replacer on calf growth, digestive health, and overall performance. Specifically, the study compared milk replacers fortified with increased and standard levels of MCFAs to determine the optimal inclusion rate for optimal health and performance.

Medium Chain Fatty Acids are rapidly adsorbed and metabolized by the liver providing a very efficient and digestible energy source. Our research has been pivotal in validating our formulas and ensuring adequate levels of medium chain fatty acids are used, while balancing the fatty acid profile overall.

METHODOLOGY

An 84 day trial was completed at the Mapleview Agri Future Performance Research Centre. Calves were split into two groups and fed a milk replacer with a standard level of MCFA, or an increased level of MCFA. Solid feed and water intake were provided and libitum body weights were recorded weekly, and health metrics such as fecal consistency and respiratory symptoms were monitored daily.

DAILY MILK REPLACER FEEDING RATE	DAY 0-6	DAY 7-13	DAY 14-20	DAY 21-41	DAY 42-48	DAY 49-55	DAY 56-63
	520g-4L	650g-5L	910g-7L	1040g-8L	910g-7L	650g-5L	325g-2.5L

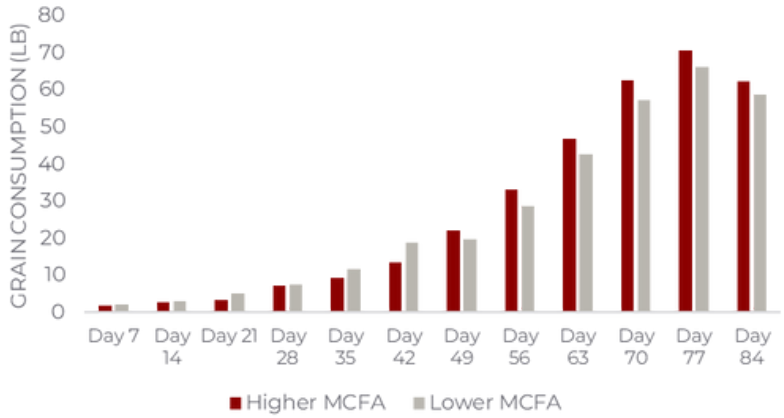


	LOWER MCFA	HIGHER MCFA
Arrival Weight (lb)	105.38	108.00
Weaning Weight Day 63 (lb)	233.28	246.28
Finish Weight Day 84 (lb)	293.78	312.74
Average Daily Gain (lb)	2.24	2.44

FEED EFFICIENCY

	LOWER MCFA	HIGHER MCFA
Milk Consumed (kg)	49.03	48.88
Grain Consumed Pre-Wean (lb)	120.52	140.44
Grain Consumption Post-Wean (lb)	182.14	195.52
Grain Consumed During Whole Growing Period (lb)	302.66	335.96
Feed Efficiency Pre-Weaning	1.79	1.78
Feed Efficiency Post-Weaning	2.94	2.79
Overall Feed Efficiency	2.16	2.17

GRAIN CONSUMPTION



TRIAL CONCLUSION

The trial conducted at the Mapleview Agri Future Performance Research Facility demonstrated that increasing the level of Medium Chain Fatty Acids (MCFA) in milk replacer positively impacts calf performance. Calves fed the higher MCFA formulation achieved greater body weights and average daily gain (ADG) compared to those on the standard formulation. Additionally, calves in the higher MCFA group consumed more grain during both pre- and post-weaning phases, indicating improved appetite and growth potential. Feed efficiency metrics remained consistent between the groups, suggesting that the additional MCFA energy and greater starter grain intake was efficiently utilized for growth.

These results validate the role of MCFAs as a rapidly absorbed and metabolized energy source, contributing to better overall calf performance. This research reaffirms the importance of optimizing MCFA inclusion levels in milk replacers to maximize growth, energy utilization, and health outcomes in calves.

KEY TAKEAWAYS

Enhanced Growth Performance: Calves fed higher MCFA milk replacer showed greater final body weight and ADG over 84 days compared to the standard group.

Improved Feed Intake: Higher MCFA inclusion resulted in increased grain consumption during both pre-weaning and post-weaning periods, supporting higher energy demands for growth.

Consistent Feed Efficiency: Despite the higher energy intake, feed efficiency remained stable, reflecting effective nutrient utilization.