

RESEARCH SUMMARY

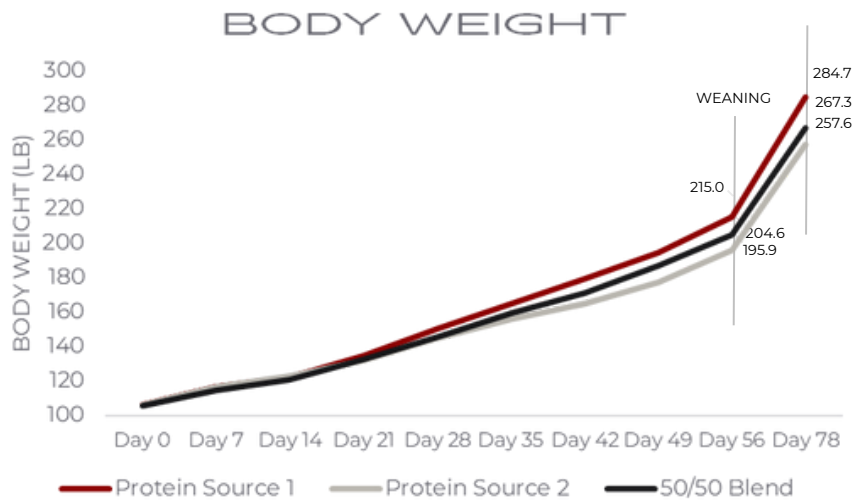
Milk Protein Source Comparison Study

The source of protein in milk replacers can significantly influence calf growth and health outcomes. The milk replacer formulation may seem equal and can be formulated with similar specifications, but there are differences with how calves perform. This study compares the effects of feeding calves milk replacers formulated with two different milk protein sources, as well as a 50/50 blend of the two. The objective was to evaluate differences in calf health, feed intake, and growth performance over a 78-day period.

METHODOLOGY

A total of 160 Holstein calves were enrolled in the study at the Mapleview Agri Future Performance Research Centre and randomly assigned to one of three groups. Three different milk replacers were formulated using different protein sources. Two of them included different sources, and the third had a 50/50 blend from each source.

DAILY MILK REPLACER FEEDING RATE	DAY 0-6	DAY 7-13	DAY 14-20	DAY 21-34	DAY 35-41	DAY 42-48	DAY 49-55
	650g-5L	780-6L	910g-7L	1040g-8L	780g-6L	520g-4L	325g-2.5L

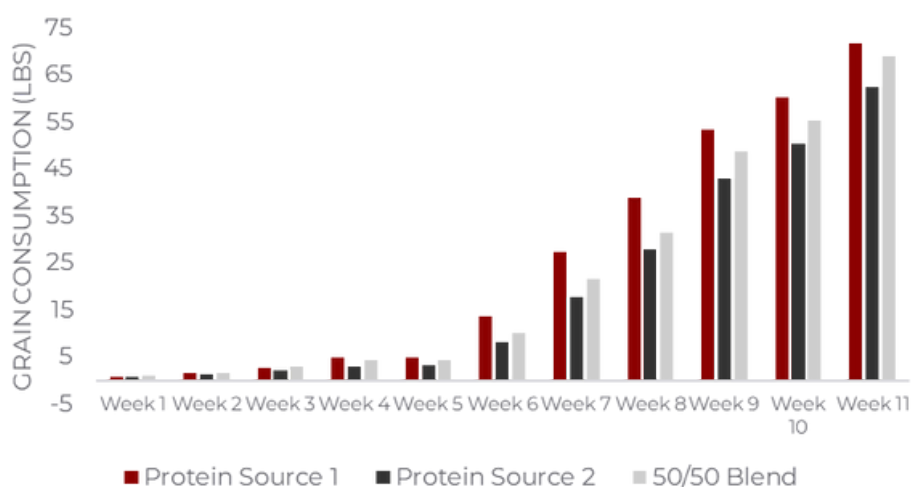


	<u>PROTEIN SOURCE 1</u>	<u>PROTEIN SOURCE 2</u>	<u>50/50 BLEND OF EACH PROTEIN SOURCE</u>
Arrival Weight (lb)	106.42	106.31	105.85
Weaning Weight (lb)	215.00	195.94	204.62
End Weight (lb)	284.73	257.58	267.33
Average Daily Gain (lb)	2.14	1.82	1.88

FEED EFFICIENCY

	<u>PROTEIN SOURCE 1</u>	<u>PROTEIN SOURCE 2</u>	<u>50/50 BLEND OF EACH PROTEIN SOURCE</u>
Milk Replacer Consumption (kg)	41.54	41.42	41.36
Grain Consumption (lb)	280.02	220.44	250.15
Feed Efficiency Pre-Weaning	1.72	1.74	1.70
Feed Efficiency Post-Weaning	2.66	2.53	2.76
Overall Feed Efficiency	2.08	2.76	2.11

GRAIN CONSUMPTION



TRIAL CONCLUSION

Not all milk replacers are created equal. The results of this study indicate that calves fed a milk replacer containing high quality milk proteins exhibited superior growth performance compared to those on an alternative milk based source, or a blend of the two. Utilizing effective milk proteins improved starter grain intake, weight gain, as well as overall performance.

KEY TAKEAWAYS

Higher Weight Gain: Calves fed Protein Source 1 milk replacer gained 19 lbs more at weaning and 27 lbs more at 78 days compared to calves fed Protein Source 2 milk replacer.

Increased Average Daily Gain (ADG): The calves fed the high quality Protein Source 1 showed an increase of 0.32 lbs/day in ADG at weaning compared to the Protein Source 2 fed calves.

Greater Grain Intake: Calves in the Protein Source 1 group consumed 27% more starter grain than those in the Protein Source 2 group, contributing to their higher overall weight gain.

Grain Intake Efficiency: Although the Protein Source 1 fed calves consumed more grain, the improvement in grain intake did not negatively effect feed efficiency reflecting effective nutrient utilization.