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Accelerated Calf Feeding Yields More Milk During First Lactation

The dairy industry, as a whole, is always looking for new ways to increase milk production. The industry has developed hormone (rBST) injections, feed additives (ionophores, fats, etc) and management changes (three times a day milking, housing improvements and genetic advancement through embryo transfer) all to increase the amount of milk each cow produces.

New research shows that something as simple as colostrum feeding and calf nutrition play a significant role in influencing a heifer's first lactation milk production potential. Heifer calves on an accelerated milk replacer feeding program, like Crystal Creek's Swift Start™

How you feed your calves during the first two months of life has a profound impact on their first lactation performance.

High Gain 25/18 calf milk replacer, produce more milk during their first lactation and show a net economic advantage of +\$231 (Michael Overton, DVM, MPVM, University of Georgia). The increased profit from feeding an accelerated growth milk replacer, such as Swift Start™ 25/18 is an income over feed cost and uses the assumptions of an initial calf value of \$250, with \$18.00 per cwt milk and an 8% interest rate. Tables 1 and 2 summarize the economic advantages of an accelerated calf feeding program. In Table 1, it is important to note that although the heifers in the study calved in at similar sizes, the heifers fed an accelerated milk replacer for the first 56 days of life produced significantly more milk during their first lactation. Simply put, how you feed your calves during the first two months of life has a profound impact on their first lactation performance.

The dairy industry has focused on the importance of feeding four quarts of high quality colostrum within four hours of birth to impart immunity and protect the calf against infection. What has been under appreciated is the importance of colostrum for other reasons such as: calories and fat needed to maintain newborn body temperature, non-specific immune supporters and a large profile of hormones such as relaxin and prolactin. Research has shown that calves fed adequate colostrum outperformed calves with inadequate colostrum intake when compared to numerous measures throughout their life. Heifers that receive the appropriate amount of colostrum (four quarts within four hours of birth) have a higher average daily gain, get pregnant sooner, last longer in the herd and produce more milk throughout their first two lactations when compared to heifers that received inadequate colostrum.

In conclusion, a heifer's first lactation performance can be greatly influenced by the amount and timing of the colostrum fed and the type of milk replacer she is given. Tables 1 and 2 clearly demonstrate that an overwhelming first lactation milk yield and increase in net profit can be achieved by feeding an accelerated milk replacer such as the Swift Start™ High Gain 25/18. If you have any questions regarding the benefits of the Swift Start™ line of calf products (Calf Milk Replacers, Calf Pellets, and Calf and Heifer Mineral) please feel free to call a Crystal Creek® Livestock Specialist for more information.

Amount of Milk Replacer Powder Fed	1.25 (lbs/day) Conventional	2.2 (lbs/day) Accelerated
Weight at Calving (lbs)	1276	1278
Milk Production First Lactation (lbs)	19,844	21,687
Net Increase in Milk Production		1,843

Table 1
Drackley et al., Journal of Dairy Science, abstract, 2007

Accelerated Feeding vs. Conventional Feeding (Per Heifer)	
Increased Feed Costs	- \$65.25
Reduced Labor Costs	+ \$14.66
Saved Health/ Vet Med Expense	+ \$14.65
Saved Interest cost	+ \$28.42
Fewer Reproductive culls	+ \$10.21
Fewer Other costs	+ \$20.36
Fewer "Dead Calf" Costs	+ \$28.71
Net Result (Savings):	+ \$51.76

Table 2
Economic Comparison of Conventional vs. Intensive Heifer Rearing Systems
Michael Overton, DVM, MPVM, University of Georgia.

Colostrum Feeding	2 L	4 L
Average Daily Gain (lbs)	1.7	2.2
Age at First Conception (months)	14	13.5
% Survival Through 2nd Lactation	75.3	87.1
Milk Production Through 2nd Lactation (lbs)	35,297	37,558

Table 3
Effects of Colostrum Ingestion on Lactation Performance, Prof. Animal Scientists, 2005