



Milk Replacer Research Pinnacle MR Field Trial

During the winter of 2002-2003 a dairy in the upper Midwest that was using a commercial high feeding rate milk replacer (MR) compared their current program to Akey Pinnacle MR. A total of 44 calves were fed either 1.5 lb per head daily of Pinnacle MR (26% all milk CP, 17% fat) for 6 weeks or an increasing and decreasing rate of a 28% all milk CP, 20% fat MR targeted to peak at 2.5 lb per head daily for 7 weeks (current program at the farm). Calves were housed in hutches and had access to free-choice water and starter feed at all times. The starter was 22% CP and was formulated to accompany their current MR. Starter and MR intake was measured daily for the first 7 weeks. Calf weights, hip width, and hip heights were measured weekly for the first 7 weeks and at 11 weeks. Health activities were recorded for all calves.

Average daily gains for the first 7 weeks were 1.74 lb for calves fed the other MR and 1.46 lb for calves fed Pinnacle (Table 1 and Figure 1). However, daily gains from 7 to 11 weeks of age were 1.95 for calves fed the other MR and 2.31 lb for calves fed Pinnacle MR. Daily gains from 0-11 weeks were 1.82 lb for calves fed the other MR and 1.77 lb for calves fed Pinnacle yielding 3.6 more lb of gain for calves fed the other MR. When valued at \$1.50 per lb, this 3.6 lb of body weight was worth \$5.40. Hip width change (3.4 inches) and hip height change (6.4 inches) was not different between the two treatment groups over the 11-week trial. The range and variability of calf weights at 7 and 11 weeks were 15 to 25% less for calves fed Pinnacle MR, resulting in a more uniform group of calves.

Milk replacer and starter intake for the first 7 weeks were very different between the two treatment groups (Figure 2 and 3). Calves fed the other MR consumed 106.0 lb of MR and 45.3 lb of starter, while calves fed Pinnacle MR consumed 61.7 lb of MR and 60.5 lb of starter. Consumption of the other MR varied considerably during the theoretical plateau weeks because numerous calves rejected MR several days during that period. Feed efficiency did not differ between the two treatment groups (other = 1.85, Pinnacle = 1.86). Feed costs for the calves fed the other MR was \$108.26 for MR (\$1.02 per lb) and \$11.23 per starter (\$119.49 total). Feed costs for the calves fed Pinnacle MR was \$53.07 for MR (\$.86 per lb) and \$15.01 for starter (\$68.08 total). The calves fed the other MR had a \$51.41 per calf higher feed cost than calves fed Pinnacle MR.

Total scour days and total medical treatment costs were 2.1 days and \$.75 per calf for the other MR treatment and 1.9 days and \$.66 per calf for the Pinnacle MR treatment, respectively.

Using an assumed feed efficiency of 3.5 lb of feed for each lb of gain, estimated feed intake from 7 to 11 weeks for calves fed the Pinnacle MR was \$8.96 more feed than the other group. (Estimates were 8.09 lb of feed per calf daily and \$56.28 per calf for the Pinnacle MR group and 6.83 lb of feed per calf daily and \$47.32 per calf for the other MR group).

In summary, the calves fed the other MR grew 19% faster during the first 7 weeks when they were fed 72% more MR than the calves fed Pinnacle MR. However, the calves fed Pinnacle MR grew 19% faster between 7 and 11 weeks. This faster gain of the calves fed Pinnacle MR is likely from a greater intake of starter feed because they consumed 33% more starter during weeks 0 to 7 and were consuming 31% more starter during week 7. Management of the calves fed Pinnacle was much easier for the farm employees since a single feeding rate of 1.5 lb of Pinnacle MR daily was fed to all calves. There were no differences in hip widths or heights. The calves fed the Pinnacle MR were more uniform at 7 and 11 weeks than the calves fed the other MR. Finally, feed costs during the first 7 weeks when feed intake was recorded was \$51 less for the calves fed Pinnacle MR. When combining estimated feed intake from 7 to 11 weeks to measurements from 0 to 7 weeks, the calves fed Pinnacle MR consumed \$42 less feed per calf and netted \$37 more per calf than the calves fed the other MR.

Table 1. Performance Summary

	Pinnacle MR	Other MR
0-7 wk Daily Gain, lb/day	1.46	1.74
7-11 wk Daily Gain, lb/day	2.31	1.46
0-11 wk Daily Gain, lb/day	1.77	1.82
0-11 wk Gain, lb	136.1	139.7
0-11 wk Hip Height Change, in	6.4	6.4
0-11 wk Hip Width Change, in	3.4	3.4
0-7 wk Milk Replacer Intake, lb	61.7	106.0
0-7 wk Starter Intake, lb	60.5	45.3

Figure 1. Body Weights

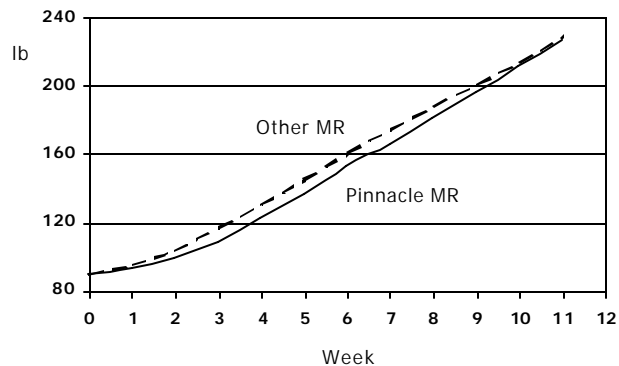


Figure 2. Milk Replacer Intake

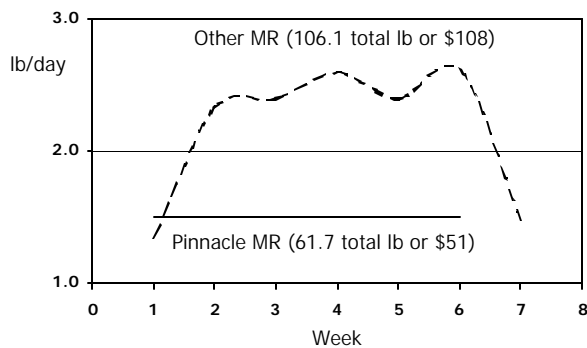


Figure 3. Starter Intake

