



Milk Replacer Research Post-weaning Growth of Calves fed Pasteurized Milk or Pinnacle MR

Akey has devoted several trials to the development of Pinnacle milk replacer (MR), a high protein (26% milk protein, 17% fat) MR fed at 1.5 lb of powder daily. Pinnacle MR is fed at 1.5 lb daily because of significant management challenges, depressed starter intake, and slumps in growth during and immediately post-weaning (up to 2 weeks post-weaning) when higher rates of MR (up to 3 lb daily) were fed. In this trial, we compared the performance of calves fed Pinnacle vs. pasteurized, whole milk during the milk-fed period and monitored post-weaning performance for 2 weeks while individually penned, plus 8 weeks when commingled in group pens.

Calves (89 lb initially) were fed 1 gallon of pasteurized (161 °F, 15 seconds), whole milk or 1.5 lb of Pinnacle MR reconstituted to 1.25 gallons of liquid volume daily for 42 days. During the first 56 days, calves were housed in individual pens. A common fresh starter (18% CP as-fed), .0033% Monensin and fresh, clean water were available at all times. After 56 days, calves were commingled in groups of 6 calves in pens where fresh water and a common fresh grower feed (16% CP as-fed), .0028% Decoquinatate were available at all times for an additional 56 days.

Calves fed Pinnacle MR gained 9.9 lb more weight from 0-42 days, .2 lb more weight from 43-56 days (not statistically different), and 4.6 lb more weight from 57-128 days than calves fed pasteurized milk. Calves fed Pinnacle MR consumed .03 lb more starter DM daily from 0-42 days (not statistically different), .2 lb more starter DM daily from 43-56 days (not statistically different), and .4 lb more starter DM daily from 57-128 days than calves fed pasteurized milk. Daily gain, starter intake, and grower intake are shown in the table below. Calves fed Pinnacle MR gained .25 units (1-5 unit system) more body condition from 0-42 days than calves fed pasteurized milk, but after 42 days there was no difference in condition score change. Calves fed Pinnacle MR gained .2 inch more hip width from 0-42 days and .1 inch more hip width from 57-128 days (not statistically different) than calves fed pasteurized milk.

In summary, calves fed Pinnacle MR (from 0-42 days) had no reduction in dry feed intake or slumps in growth at any time, showed no sign of over-conditioning, and had proportional weight gain and hip width change. Calves fed Pinnacle MR were 9.9 lb heavier at weaning (42 days) and 14.7 lb heavier at 112 days compared to calves fed whole milk (from 0-42 days).

Initial Liquid Diet	Body Weight Gain, lb daily			Starter/Grower Intake, lb DM daily		
	0-42 days	43-56 days	57-112 days	0-42 days	43-56 days	57-112 days
Pasteurized Milk	.93	2.03	2.29	.65	3.73	6.86
Pinnacle MR	1.16	2.04	2.37	.69	3.99	7.24