



Milk Replacer Research Alternative Proteins

Thirty-six calves were purchased and randomly assigned to one of 3 milk replacers (MR; 20% protein, 20% fat) with Deccox[®] (22.7 mg/lb) to evaluate two alternative sources of protein. These two alternative sources of protein replaced small amounts of the milk protein. All calves had access to a constant supply of fresh water and fresh calf starter. Calves were fed their respective MR twice daily. The calves averaged 90 lb at the beginning of the trial.

The MR compared were:

- 1) *Akey White Gold*, all milk protein,
- 2) Hydrolyzed wheat gluten protein replacing part of the CP,
- 3) Hydrolyzed collagen (gelatin) replacing part of the CP.

The results for the six weeks when calves were fed both MR and starter are tabulated below. Calf gains were 86% and 76% of calves fed *Akey White Gold* MR when the experimental MR with wheat gluten and collagen were fed, respectively. These experimental protein sources also reduced starter intake and increased medical treatments compared to *Akey White Gold* MR. Both wheat gluten and collagen are low in essential amino acids and this likely depressed performance. These two alternative protein sources are low to near zero in crude fiber and have a lower cost per unit protein than milk protein, making them attractive to many commercial MR manufactures. These two ingredients are not used in *Akey* MR.

Milk Replacers	Daily Gain, lb*	Daily Starter Intake, lb*	Medical Treatments/Calf*	Fecal Score
1) <i>White Gold</i>	1.22	1.35	6.1	1.64
2) Wheat Gluten	1.05	1.13	6.9	1.56
3) Collagen	.96	1.11	7.1	1.71

*Wheat gluten and collagen reduced gains and starter intake and increased medical treatments (RRC9937)