



## Milk Replacer Research Post-weaning Growth of Calves fed Apex

Akey has devoted several trials to the evaluation of Apex botanicals. In these trials, we have observed a consistent and immediate (within the first 14 to 21 days) response in gain to feeding Apex via the liquid diet, starter feed, or both. When Apex has been fed via the liquid diet only, the response has carried over to the 2-week post-weaning period. When Apex has been fed via both the liquid diet and starter feed, the response has been additive. We have observed responses to Apex fed in all milk protein milk replacers (MR), milk/soy MR, and whole milk. Additionally, we have observed responses to including Apex in high (~40%) and low (~4%) starch starter feeds. We have seen some reduction in scouring but not consistently in our calf trials, so the botanical blend does not appear to be a strong antimicrobial. We did not measure a change in digestibility when Apex was fed with the liquid diet in the nursery phase. However, no data exist for feeding Apex beyond the nursery phase. In this trial, we compared the performance of calves offered diets with 0 or .026% Apex during the grower period. Half the calves had previously been fed Apex and half not fed Apex via the liquid diet in the nursery phase.

In the nursery phase, individually penned calves fed Apex gained 13% faster during days 0-42 and tended to gain 16% faster during days 42-56 after the calves were weaned from the liquid diet. For the grower phase (days 56-112), calves were moved to 8 group pens of 6 calves per pen and fed a grower diet with and without Apex. Data for the grower phase are in the table below. Calves fed Apex in the grower phase grew 7% faster, consumed 3% more feed (not significant), and were 3.3% more efficient than calves not fed Apex. There was a carryover of improved intake and 4.8% (5.7 lb) more gain from feeding Apex in the nursery phase and a further improvement in gain (14.2% or 17.4 lb) from feeding Apex in both the nursery and grower phase. Calves that did not receive Apex during the nursery phase but did receive Apex during the grower phase gained 5.0% faster resulting in 6.2 lb more weight gain vs. calves never fed Apex. There were no differences in the hip width change and body condition score change.

All combined, our data indicate a metabolic effect of Apex to stimulate intake and gain. Apex also exhibits its effect for several days after it has been removed from the diet.

Performance of calves during the 56-day grower trial (2 - 4 months of age).				
Nursery phase	No Apex	With Apex	No Apex	With Apex
Grower phase	No Apex	No Apex	With Apex	With Apex
Gain, lb/day	2.20	2.30	2.30	2.51
Intake, lb/day	6.38	7.48	6.89	7.41
Gain/Feed	.345	.308	.337	.339
Hip width change, inches	2.01	2.06	2.12	2.10
Condition change, 1-5 system	.27	.53	.31	.34