



Calf Starter Research Protein Levels in Calf Starters

Previous research has shown the protein requirements for calf starters fed to calves under 8 weeks of age to be approximately 18% protein on an as-fed basis. This is consistent with the Dairy NRC (1989). Some feed companies and universities have suggested that the requirement is greater than 18% protein, especially if one is feeding a high level (over 1 lb daily) of milk replacer (MR) to achieve more rapid rates of gain. However, there are no controlled research studies that show a protein requirement over 18% (as-fed).

To investigate protein requirements for calf starters, we fed calves starters that contained graded levels of protein with Akey White Gold MR with Deccox[®] (20% all milk protein, 20% fat) at 1 lb daily (trial 1) and Akey Pinnacle MR with Deccox[®] (26% all milk protein, 17% fat) at 1.5 lb daily (trial 2). In each trial, 50 bull calves were randomly assigned to starter protein levels of 18, 20, 22, 24, and 26% as-fed basis and fed milk replacers and free-choice starter for 6 weeks. Calves were fed starter alone after 6 weeks. The starters were a corn-based pellet with 15% wheat midds and a fixed protein blend replacing corn with elevated levels of CP. The protein blend consisted of 75% soybean meal, distiller's grains, and Amino Bypass Blend. Mineral, vitamin, and Deccox[®] levels were equal among starters. Calves were weighed initially and weekly. Starter intake was measured daily. Fecal scores and medical treatments were recorded daily. Hip widths and body condition scores was measured initially and every two weeks. In both trials, there were no differences in any measurement taken. The figure below shows the data obtained from our trials (Prof. Anim. Sci. 23:123, 2007) along with data obtained at the University of MN (J. Dairy Science 77:1882, 1994) where starter protein levels ranged from 13 to 20% CP.

These results indicate that neonatal calves do not require starters with protein levels exceeding 18% (as-fed basis).

