Replacement Report

Calf Starter Research
Weaning Age of Calf

Dairy calves are weaned at different ages. Early weaning reduces the amount of milk replacer (MR) fed, which lowers input costs. Additionally, it could reduce labor needs and costs associated with feeding liquid diets and maintaining calves individually. Weaning later could reduce mortality rates in some management programs and possibly maintain better body condition on calves.

Greenwood et al. (1997; J. Dairy Sci. 80:2542) weaned calves based on starter intakes (14.2% CP) of 1.0, 1.5, or 2.0% of initial BW (which corresponded to 32, 43 and 45 days of age) and observed similar weight gains from 0 to 8 weeks and also up to 20 weeks of age among all 3 groups. Calves weaned at 1.0% of initial BW starter intake, consumed the most starter from 0 to 8 weeks and tended to grow faster than calves weaned at greater starter intake percents of BW. Quigley et al. (1991; J. Dairy Sci. 74:250) weaned calves from milk (7.9 lb per head daily) at either 28 or 56 days of age. They saw no differences in rate of gain due to weaning age and calves weaned at 28 days of age consumed more starter (16.8% CP) but similar total amounts of dry matter over the 98-day trial. Luchini et al. (1991; J. Dairy Sci. 74:3949) observed no difference in performance of calves fed 18% CP starters through 84 day of age and weaned at 26 or 42 days.

Previously, we fed calves 1 lb of Akey White Gold MR powder daily (20% protein, 20% fat powder) and weaned them at either 28 or 42 days. Calves weaned at 28 days had a slower daily gain, greater starter intake, and poorer efficiency from 0 – 42 days than calves weaned at 42 days (Figure 1). However, from 0 – 56 days, calves weaned at 28 and 42 days had similar gains, hip width change, and body condition change (first comparison in Figures 2, 3, and 4). Calves weaned at 28 days consumed more starter from 0 – 56 days than calves weaned at 42 days. Calves weaned at 42 days tended (not statistically significant) to be more efficient than calves weaned at 28 days. We repeated this trial and observed similar results (fourth comparison in Figures 2, 3, and 4).

Previously, we evaluated feeding high levels (1.8 lb daily) of a 30% milk protein, 20% fat MR powder for 2 or 3 weeks followed by a conventional MR and feeding level (1 lb powder) for 3 weeks (5 or 6 week weaning) vs. 1 lb daily of White Gold MR (20% milk protein, 20% fat MR) for 5 or 6 weeks. Our idea was to see if we could feed calves to grow fast during their first 2 or 3 weeks with liquid nutrition and reduce the liquid nutrition to encourage starter (18% CP) intake in an attempt to avoid a weaning slump in growth rates. We saw no difference in rate of gain from 0 to 56 days of age even though the calves fed the high rate, high CP MR grew faster initially (second and third comparison in Figures 2, 3, and 4). Those calves consumed less starter and were less efficient than calves fed conventionally. Additionally, the calves weaned at 5 weeks consumed more starter. The trend (not statistically different) was for calves fed White Gold MR to be more efficient, but calves fed the high level of MR to be less efficient, when weaned at 35 vs. 42 days.

In our most recent trial (last two comparisons in Figures 2, 3 and 4), we evaluated weaning at 28 and 42 days of age. Calves were fed a commercial 22% milk protein, 20% fat MR at 1 lb daily or Akey Pinnacle MR (26% milk protein, 17% fat) at 1.5 lb daily. Calves fed the commercial MR had a similar pattern of weight gain as we have previously observed with calves fed Akey White Gold MR and weaning at 28 or 42 days resulted in no differences in their weights at 56 days. Calves fed Pinnacle MR were 20 to 28 lb heavier at 56 days and consumed 14 to 21 lb more starter than calves fed the conventional MR. However, calves fed Pinnacle MR and weaned at 28 days were 5 lb lighter than calves fed Pinnacle MR and weaned at 42 days. Calves fed both programs and weaned at 42 days were more efficient from 0 – 56 days than calves weaned at 28 days.

Weaning earlier than 42 days is a viable alternative to weaning at 42 days. In all of our trials, we successfully weaned all of the calves fed conventional 1 lb per day MR at either 28 or 35 days with little difference in performance. These data do suggest that calves weaned early will have a slight slump in performance for 7 - 14 days post-weaning but they make up this lost gain in 21 - 28 days. Economics were not applied to these data, however, a savings in feed cost (starter being much less expensive than MR) and a savings in labor time or cost would seem evident with weaning at less than 42 days. Weaning calves early in both of the high feeding rate programs that we evaluated resulted in 5 to 7 lb of lost weight gain from 0 - 56 days.

Figure 1. Effect of Weaning Age on Calves Fed White Gold MR

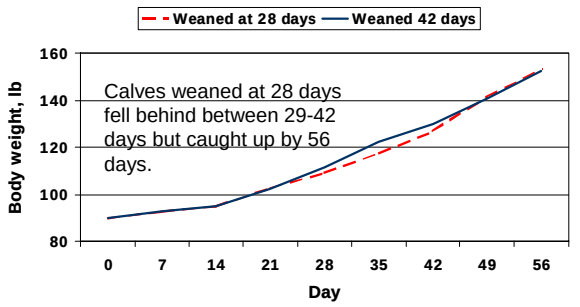

Figure 2. Effect of Weaning Time on Daily Gain in Various MR Programs

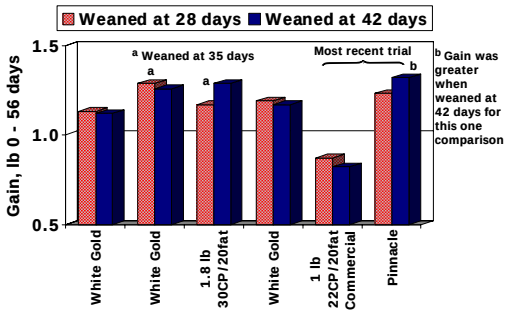

Figure 3. Effect of Weaning Time on Daily Starter Intake in Various MR Programs

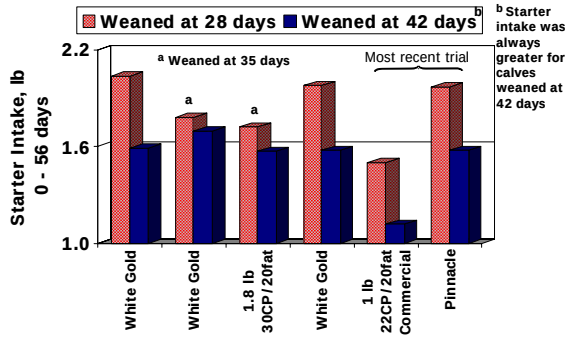

Figure 4. Effect of Weaning Time on Efficiency of Gain in Various MR Programs