



Merrick's TECH BULLETIN

Comparison of the Super Star 6 week weaning program to an 8 week weaning 20-20 program

Introduction

Most economic evaluations of intensive milk replacer feeding programs focus on the potential for a younger age at first calving that can be achieved with a faster heifer growth rate. Some of these programs feed such a large volume of milk replacer that it would be difficult if not impossible to pencil out a payback in a shorter time frame.

For many calf raisers, however, a sensible intensive feeding program can virtually pay for itself in the first 8 weeks of life. For them, quick payback hinges on reducing the weaning age of their calves. The Dairy 2002 NAHMS survey reports the average weaning age of U.S. dairy calves to be 8.4 weeks. A two-week reduction in weaning age would significantly lower costs associated with feeding milk replacer.

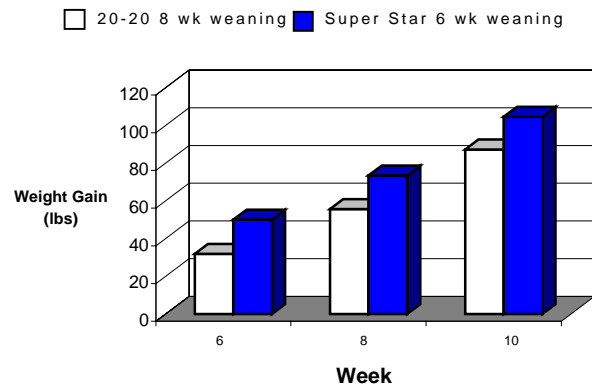
Program Comparison

A study conducted at Merrick's research facility compared the performance and feed economics of calves weaned at 8 weeks on a 20-20 milk replacer to our Super Star 25-15 program with 6 week weaning. Calves on the conventional 20-20 program received 1 lb of milk replacer powder in 1 gallon of water per day. Calves on the Super Star 25-15 program received 1.5 lb of powder in 1 gallon of water per day. All other management factors were the same for both groups.

Calf Growth. At 6 weeks of age, Super Star calves were about 18 lbs heavier than 20-20 calves. Figure 1. This weight difference was maintained throughout the remainder of the trial even though 20-20 calves were weaned two weeks after Super Star calves. Calves on a 25-15 milk replacer feeding program are typically 17-20 lb heavier at weaning than 20-20 calves.

Figure 1.

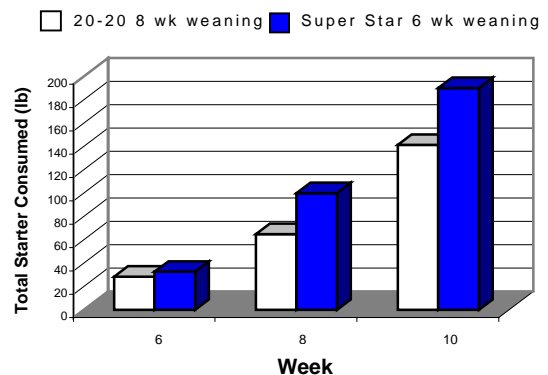
Weight Gain Comparison (8 wk conventional vs 6 wk intensive)



Starter Intake. By six weeks of age, starter intake is typically similar for both feeding programs. This result is confirmed in Figure 2, with 20-20 calves consuming about 29 lbs and Super Star calves consuming about 33 lbs of starter.

Figure 2.

Starter Intake Comparison (8 wk conventional vs 6 wk intensive)

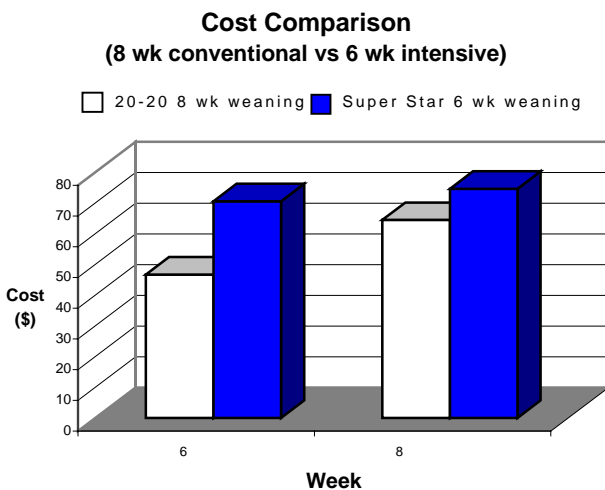


During the two weeks after weaning, Super Star calves out-consumed 20-20 calves (which were still on milk replacer). Starter intakes at eight

weeks of age were about 65 lbs for 20-20 calves and 100 lbs for Super Star calves. During the two weeks after weaning (weeks 8 through 10), 20-20 calves ate 75 lbs of starter, increasing their total consumed from 65 to 140 lbs. Super Star calves ate 90 lbs of starter during the same time period, increasing total starter consumption from 100 to 190 lbs. By 10 weeks of age, Super Star calves had consumed 50 lbs more starter than 20-20 calves.

Cost Comparison. As expected, the additional volume and higher price of the 25-15 milk replacer resulted in a cost of about \$23 per calf more for the intensive program by week six.

Figure 3.



Since 20-20 calves were weaned two weeks later than Super Star calves, they accumulated an additional milk replacer cost during these two weeks.

A milk replacer labor cost of \$0.60/calf/day was used in this evaluation. This cost reflects the actual cost at Merrick’s research facility to prepare milk replacer, feed 60 calves and cleanup/sanitize mixing and feeding equipment twice per day. Milk replacer was mixed with a power mixer and calves were fed individually with 2-quart bottles.

Keeping 20-20 calves on milk replacer two weeks longer than Super Star calves caused an additional \$8.40 labor cost for each 20-20 calf. By week 8, the total difference between the two programs decreased to less than \$10 per calf. About \$6.50 of this difference was the additional starter consumed by 25-15 calves. This boils down to a total milk replacer cost difference between the two programs of about \$3.50/calf.

Summary

Intensive milk replacer feeding programs increase calf growth rate prior to weaning. If maintained, this growth advantage translates into a younger age at first calving and overall reduced rearing costs. In addition, the Super Star 25-15 program is a 6-week weaning program. Calves receive a total of 63 pounds of milk replacer compared to 56 pounds with a conventional 20-20 eight week weaning program.

When milk replacer, starter and associated feed costs are added up, the Super Star program costs under \$10 per calf more than a conventional rearing program. However, the difference in milk replacer associated costs drops to about \$3.50 per calf since \$6.50 if this difference is the higher starter consumption of Super Star calves.

Super Star calves consume about 35 pounds more starter by eight weeks of age and are typically 18-20 pounds heavier than 20-20 calves. They are taller, have a healthy aggressiveness and are ready to grow, making this \$3.50 a high-return investment.

Two key aspects of successful 6 week weaning are good starter quality and access to clean water. Skimping on either of these will delay rumen development and prolong milk replacer feeding time. Previous research at Merrick’s showed a 20 lb difference in 6 wk weight gain where the only difference in calf diets was the quality of commercially available starters.