



Colostrum For Life

The importance of new born calves receiving colostrum soon after birth is well know and accepted within the dairy industry. How much effort is made by dairy farmers to ensure this does occur is another matter.

Following are some statistics from various studies done in the USA on colostrum related productivity parameters. I trust they will help stimulate our consciences to better practice in ensuring calves do get adequate colostrum. I believe there is only one way to guarantee this, and that is to bottle feed, or stomach tube every calf with 2 litres twice on day one. Assuming the calf has sucked its dam for sufficient colostrum is 'lotteries' management.

Colostrum quality is obviously a significant issue also. Colostrum meters for measuring specific gravity are readily available these days. Only high IgG content colostrum should be used at these two crucial feeds.

The two most common causes of calf death are scours prior to weaning, and respiratory disease post weaning. Scours and respiratory problems are interrelated and colostrum is the key to prevention. The scour induced death is obvious; however the respiratory disease menace is less obvious, and too infrequently linked to colostrum inadequacy.

Here's some statistics connecting respiratory disease and productivity:

A Canadian veterinary study revealed calves who suffered pneumonia in the first 3 months were 2.5 times more likely to die after 90 days of age.

A New York veterinary study reported calves with respiratory disease had a reduced chance of surviving to 2 years of age, took longer to first calving and were culled sooner.

Conversely, heifers without respiratory disease were twice as likely to reach calving, and did so 6 mths earlier than those who had suffered calf-hood pneumonia.

None of the above would surprise too many dairy farmers, however the question of how much colostrum possibly will.

A recent study in Wisconsin (USA) revealed some alarming results in a comparison of heifers fed different amounts of colostrum. One group was fed 2 lts, another 4 lts of colostrum. The group fed 4 lts produced nearly 1000 lts more milk during first lactation, and in excess of 1600 lts more milk in second lactation than did the 2 lt colostrum group. Both groups received pooled colostrum with waste milk during subsequent feedings over 14 days. Both groups were subject to identical nutrition to first calving.

Further research has identified over 200 bioactive compounds in colostrum, some associated with immunity, but others with intestinal development and nutrient absorption enhancement capacities. Clearly, the 4 lt colostrum group grew and developed far better to achieve these substantial differences in lactation performance. Although the research reports did not state live weights at first calving I would assume the 4 lt group were considerably heavier and larger than the 2 lt group, and this size difference contributed significantly to the milk production variations between the two groups.

I am certain this colostrum regime is well worth the effort based on the data above, however it is not the whole story. Our goal of a 600 kg heifer (Holstein), calving at 24 months requires feeding diligence beyond day one of the calf's life.

Offer a good calf grain mix from day one – no hay or straw. Grain stimulates very rapid development of the infant rumen enabling absorption of nutrient at a young age. Once the calf is eating 1.5 to 2 kgs of grain it can be weaned as the rumen is then able to digest sufficient solid feed to supply the calf with adequate nutrient for growth. Forage may then be introduced.

I wrote in November 05 an article on heifer growth and nutrition to ensure growth rates continue over summer with the assistance of grain. I am convinced the 100+ kgs of live weight normally not gained over 24 mths is due to these two summers of limited or no growth. Nutrition over this time is too often barely sufficient for maintenance. It is this low first-calving (450 – 500 kgs - Holstein) weight that causes heifers to produce 1000 to 2000 litres less than their genetic potential.

A constant growth rate of 0.8 kgs live weight/day (Holstein) has been proven to produce the best first-lactation response, and subsequent longevity and lifetime performance. Growth rates, both greater and less than this, have produced stunted first-lactation performance.

Frequently I hear and read about the high cost of rearing heifers; the inference is often that you can buy heifers for a similar cost to rearing them. My response to this philosophy, both from my own experience and of observing other farmers, is that few of us have \$50,000 to \$100,000 cash laying around to buy replacements, yet can seem to afford to finance the raising of them over two years. Growing out successfully your own herd genetics is a valuable source of capital growth and farm profit. The other two are: DM pasture harvested/ha, and efficient conversion of pasture to milk through fully fed cows.