

The importance of starting from day one with heifer calves

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A long and productive dairy cow life is recognised as essential for profitable and sustainable dairy farming. How disappointing then to realise that 25% of heifers fail to complete a second lactation. One cannot always be correct when making assumptions about the reasons for this fall out rate. But if you were to consider disease (mastitis/lameness), poor fertility, lack of size and or poor productive performance, you will almost certainly have identified one of the main causes.

More and more nutritionists are of the firm belief that an inadequate start in life and

irregular or interrupted growth will cause the heifer to fail to reach the correct frame size and weight at 15 months of age.

If breeding occurs at a lower than desired size, the expectancy for a long and productive life is dramatically reduced. Therefore a challenge free and quick start in life is vital to allow target growth rates to be achieved – 825-850g daily live weight gain from birth to 24 months would be an ideal target.

Day one is critical

It could be argued that dry cow management, in particular correct nutritional support of the dam is critically important for

calf vitality at birth and beyond. This is very true but in this instance we will focus on management from birth onwards.

In human babies antibodies can pass through the placenta direct to the foetus. However, in ruminants this does not occur and as a result the calf has zero immunity at birth.

This means that calves must gain immunity through the absorption of antibodies via maternal colostrum or alternatives and/or boosters.

The timing of this is vital with the most

effective absorption of antibodies being in the first six hours of life. After 12 hours the efficacy decreases significantly with the window of opportunity closing after 20-24 hours.

Colostrum fed after 24 hours will not impact on the development of the immune system but can have a beneficial effect in providing protection from bacterial and viral challenges in the digestive tract.

A heifer calf has to drink 1.5 litres of colostrum during the first two hours of life plus 2.5 litres in the following 24 hours which is roughly equivalent to 200g of antibodies in the first 24 hours of life.

There is a positive correlation between the amount of antibodies consumed by the calf in the first two days following birth and its growth during the first three months.

Prompt feeding of colostrum is therefore essential if the calf is to build immunity against the numerous health challenges it will face.

This could prove difficult. If, as Norwegian trial work indicated, 42% of 1250 tested maternal cow colostrum samples had <50g/l of antibodies and would therefore be inadequate in supporting immunity in the new born calf.

Add to this evidence from work by Morin et al, 1997 which indicated that when good and poor quality colostrums were fed to two groups of calves in two feeds between



birth and 12 hours of age, the group fed good quality colostrum received 75% more antibodies.

One challenge facing the milk producer is how to get extra support into the newborn heifer calf.

Has the calf already taken potentially weak maternal colostrum? If the answer is no, a colostrum alternative should now be fed. If the answer is yes, it may prove difficult within the capacity limitations of the abomasum to put in another two litres of replacer product without stressing the gut and causing a set back to the calf. In this instance a colostrum booster would prove more suitable.

Feeding milk and colostrum

Care must be taken if feeding a colostrum alternative and of course all future milk to the calf. The vital point in successful feeding of milk and/or colostrums is to ensure the milk gets to the abomasum, the correct site for optimal digestion.

Milk going into the rumen will ferment and create fat bellied and bloated looking calves that fail to grow on well. The natural way a calf achieves correct feeding is by opening the oesophageal groove which diverts milk away from the rumen and into the abomasum.

When artificially feeding a calf there are



only two ways to ensure this reaction occurs:

- By feeding via an artificial teat – the sucking action triggers the opening of the oesophageal groove.

- By feeding the milk/colostrum at body temperature – 39°.

Feeding cold milk or colostrum from a bucket will fail to get the milk to the abomasum!

Proven colostrum products

When you have determined that additional and/or alternative support is required to get the heifer calf off to the best start, you need to consider the products available to achieve your goals. Quite simply you must select proven and EU compliant products

Proven colostrum alternatives such as Neosturm IG from Neolait and Volostrum from Volac, will boost the potential viability and vigour in all calves in the early weeks of

life and will meet the demanding requirements for a successful start in life.

Neosturm IG is a simple, easy to use colostrum booster in a tube. There is no mixing and no waste as a single tube is used per calf, which can be fed as one feed or split into two feeds during the first day of life. It contains both bovine and hyper-immune egg powder and Enterococcus faecium NCIMB 10145, an EU approved probiotic microbial strain.

Volac Calf Volostrum is a high quality natural alternative to colostrum and is recommended for use when an adequate supply of good quality maternal colostrum is unavailable.

Volostrum's guaranteed high specification makes it ideally suited as a first feed for the young calf. It contains a consistently high level of protein and energy and provides 450g of nutrients in one feed, giving the calf the energy and protein it needs for a good start in life. It has been successfully tried and tested by farmers for over 20 years. ■