

Giving calves the

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On an average dairy farm, replacement costs contribute 17% to the cost price of milk. This makes it the most important expense after feed. This statement was published by the Faculty of Veterinary Medicine of Utrecht University together with the fact that the average rearing cost of a heifer was calculated at €1540. This inevitable cost asks for an increased focus on young stock rearing.

The development of youngsters to healthy heifers pays off due to the higher and more efficient milk production. This can be achieved in two ways. First of all, well developed heifers produce more milk. Research has shown that, in the first eight weeks, a higher growth rate of the calf has a positive effect on the potential of the udder tissue.

Secondly, well developed heifers increase their chance of staying on the farm for a longer period of time. This leads to a reduction of the replacement rate of the herd.

The latter leads to lower costs and increased possibilities to breed with the animals having the best genetic potential.

Importance of colostrum

A new-born calf does not have any protection of its own against pathogens. All protection in the first 2-3 weeks is provided by the colostrum which should contain at least 50g/l of immunoglobulins (Igs).

After calving, the concentration of Igs in the milk decreases fast due to dilution by milk not containing any immunoglobulins. Therefore the cow needs to be milked not more than two hours after calving.

Another reason for the fast delivery of colostrum is the 'closing'

intestinal wall of the calf. Therefore absorption is only possible shortly after birth. Also the suckling reflex is better when the colostrum is supplied soon after calving and when the drinking temperature is 40°C.

When the colostrum quality is routinely checked, a first supply of two litres may be sufficient, if not, a first supply of four litres is recommended.

The gastrointestinal system of the new-born calf is empty and sterile, allowing a higher supply than two litres at that moment.

It is recommended to supply a total of six litres of colostrum per day for the first two days. In case of severe diarrhoea problems on a farm, the local immunity in the intestine can be increased by adding 150-250ml of colostrum to the calves' milk twice a day.

It has to be mentioned that strict hygiene should be obtained during milking and feeding. When freezing colostrum, hygienic conditions are essential and still often forgotten.

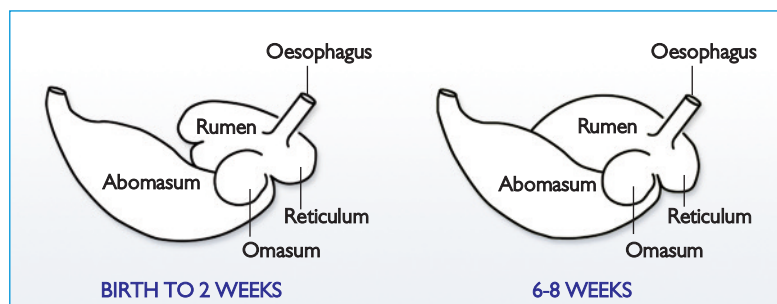
The criteria for high quality colostrum:

- Fresh – Milk directly after calving and apply strict hygiene. Immediately supply the colostrum at a temperature of 40°C or cool down fast for storing.
- Fast – Supply the first colostrum within half an hour after birth (maximum two hours after birth).
- Full – Two litres per feeding but the first supply is preferably four litres.
- Frequently – Three feedings per day to obtain at least six litres per day for the first two days.

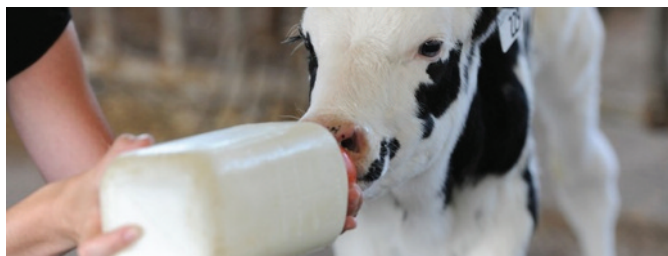
High milk production

In its first weeks of life, the calf is dependent on milk. With a more intensive feeding schedule, a higher growth rate can be achieved, but many farmers see digestive disor-

Fig. 1. Development of the bovine stomach complex from birth to mature animal.



e perfect start



ders when more than two litres of cow milk or three litres of milk replacer per feeding is supplied.

Carefully increasing the milk supply in the first weeks and working hygienically can prevent a lot of problems. To enable a higher growth rate in the first weeks of life, Nuscience has introduced Vita Dairy Boost. Vita Dairy Boost is a supplement that is added to the milk to improve its nutritional value and to adjust it to the need of the fast growing calf. Vita Dairy Boost promotes the digestion of the milk and prevents digestive disorders.

Monogastric to ruminant

In addition to the colostrum and milk supply, soon another important issue arises: achieving good rumen development. A cow largely depends on the rumen for its energy supply. The better the rumen is developed, the more capacity the cow has for absorbing nutrients for milk production. Fig. 1 shows that the rumen is still very small at birth, but accounts for 80% of the forestomach complex in mature animals.

At the moment of weaning, the calf immediately becomes completely dependent on the rumen. Rumen development is promoted by an early intake of solid feed before weaning. As early as the second day, calves can be started on a prestarter. Calves are curious and a good composition of the calf starter promotes intake. ■

Nuscience has developed Rumito Start, a very tasty and easily digestible muesli. When the calves start early on a daily amount of prestarter the intake of concentrate and roughage increases from the third week of life.

When concentrate and roughage are taken in at the same time it will promote rumen development. Roughage ensures a good development of the rumen volume, while the concentrate is needed for the development of the rumen papillae.

The concentrate intake of a calf is directly proportional to the water intake. So, between milk feedings, the calf always needs to have good quality fresh water at its disposal.

Intensive farming aims for a weaning weight above 80kg at eight weeks of age. Although the ideal moment of weaning can be determined by the concentrate intake which is at least 1.5-2kg per day.

The milk supply needs to be decreased at least 2-4 weeks before the moment of weaning, depending on the weaning age. Particularly in an intensive growth schedule, decreasing the milk supply in time promotes the concentrate intake. From four months of age, the calf ration may be decreased gradually and be replaced by the young stock ration.

Nuscience has everything to give your calves the perfect start. The milk supplement Vita Dairy Boost and the prestarter Rumito Start contain all nutrients needed for a healthy start and good juvenile growth rate. ■

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