

Tips on how to feed more milk and avoid nutritional scours

Bloom, not scours gloom

Calving heifers at two years old means they need to achieve a target weight of 400kg when served at 14 months of age. So how do you maximise growth rates and avoid 'checks' caused by nutritional scours? We spoke to two experts to find out.

text **Rachael Porter**

Be it due to colder weather or to boost growth rates, producers often feel under pressure to feed more milk to calves. But the cloud of nutritional scours looms over many a good intention, so how can you feed more milk while, at the same time, be sure that you're not going to cause digestive upsets?

Around 50% of calves on UK farms will suffer from scours before weaning and most of these will be the result of common infections, such as *Cryptosporidium parvum* and rotavirus.

Nutritional scours is less common than infectious scours, but can be caused by anything that disrupts the calf's 'normal' feeding pattern, such as variation in milk concentration or irregular feeding.

Feeding method is crucial, according to Dairy Spares' Jeff Radnor. "The way that calves are fed milk is one of the factors affecting the incidence of scours. The calf should have to suckle for its milk, as it would naturally. So always use teats, not buckets, and choose teats of a design similar to the Milk Bar teats. These make calves 'work' to get a slow release of milk as they 'suckle' not 'pump' for it."

Oesophageal groove

Suckling has two benefits. Firstly it activates the oesophageal groove reflex, which then directs milk into the abomasum where it can be digested, instead of the rumen. "This is important because the rumen is inactive to begin with and so any milk entering it will ferment and produce acids, thereby lowering the rumen pH and resulting in milk

scour," explains Mr Radnor. "It can also cause long-term damage that can impact on the subsequent growth and production potential of the animal."

For the oesophageal groove reflex to operate, the teat needs to be positioned about 50cm above the ground, so that the calf stretches up to it, as it would to feed from its dam.

Secondly, the act of suckling promotes the production of saliva. Saliva balances the pH in the abomasum, so that enzymes can break the milk down into curd and whey. These are then absorbed in the small intestine. Saliva also contains lipase, an enzyme necessary for digestion of fats, which are a vital energy source for the young animal.

"The more effort needed to extract the milk through a teat, the more saliva is produced. So attention to the teat design is a key element in promoting saliva production," explains Mr Radnor.

Brand-new teat

Milk Bar teats are designed to make calves have to work hard to extract the milk. For best results, once calves are around two days old, and no longer on colostrum, a brand-new slow feeding teat, like the black Milk Bar teat, should be fitted to the feeder. The teat increases in flow rate as it wears in and the growing calf gradually transfers its need for saliva from drinking to the ruminant stage.

In France the 'Follow the Teat' system – in which a calf is given a new Milk Bar teat to begin with and then stays feeding from the same teat as it gets older – has been a huge success. Calves have shown

The intense suckling action required on a new and firm teat encourages a huge amount of saliva to be produced

improved liveweight gains, not only during the weaning process but also in the months following. In part, this is attributed to the energetic suckling that's required, which develops the jaw muscles and enhances the efficiency of rumination," says Mr Radnor.

Check colostrum

So, what about the milk itself? "As long as good quality milk is fed under hygienic conditions, feeding more milk – say, for example, up to 900g milk powder per calf per day in six litres of milk – will not increase the risk of scours," says Volac's young stock specialist Jessica Cooke.

"Consistency and hygiene during the milk feeding period are key to preventing scours. So every effort should



be directed towards prevention,” she adds, recommending that producers should follow ‘best practice’ management. Colostrum management is vital. “Collect colostrum as soon as possible following delivery of the calf – ideally within two hours. And check colostrum quality by using a colostrometer.

“Only feed good quality colostrum to the newborn calf. Lower quality colostrum can be fed to older calves that have already consumed an adequate quantity of good quality colostrum.”

Dr Cooke stresses that colostrum should be fed, ideally, within two hours of birth and certainly within six hours: “And feed as much colostrum as possible. The minimum is three litres within two hours and a further three litres within 12 hours. Make sure that you offer colostrum for at least the first three days.”

She adds that it’s also important to ensure that colostrum is ‘clean’. “Cows should calve into clean and dry pens and udders must be clean, as should milking and calf-feeding equipment,

and colostrum must be stored in clean containers.”

When it comes to feeding milk, Dr Cooke says that it’s important to use a high quality milk replacer with known calf performance. “Do not feed waste or mastitic milk.”

Consistent concentration

“Mix and feed the milk replacer at the correct temperature – this should be between 37°C and 39°C. Always use a thermometer to check.”

“And feed the milk replacer at the same concentration at every feeding, so use scales to weigh the milk powder. For a concentration of 12.5% solids, use 125g powder plus water, approximately 875ml, to make one litre of mixed milk. Remember, adding 125g powder to one litre of water will give a milk concentration of only 11.1%.”

Feeding consistent volumes of milk, from feed to feed, is also important and any changes to amounts fed should be introduced gradually. “Feeding calves at the same time each day is also vital.”

Husbandry and hygiene should also, of course, be tip top to help avoid scours. So ensure that calves are born into, and subsequently enter clean, dry and well-bedded pens. “Keep all feeding equipment clean and offer clean and fresh water and a good quality and palatable calf starter from day three. This is sounds very obvious, but it’s an area that’s still often over looked on many units.”

Dr Cooke’s five ‘must haves’ when selecting a milk replacer include a minimum of 20% protein, a maximum of 9% ash and a minimum 0.8% calcium. “And make sure you buy from a trusted supplier. Previous calf performance and calf bloom give the best guarantee for the milk replacer’s quality.”

She adds that if calves do start to scour, prompt diagnosis and treatment is key. “Identifying the early signs of scours, together with the appropriate veterinary treatment, could help to reduce the duration and severity of the problem and improve the subsequent calf growth rates and performance.” |

