

Innovations to help get tomorrow's milkers off to a flying start

What's new in calf rearing?

Our round up of some of the latest calf-rearing technology and research should have something of interest for everyone. Read on to see if you can pick up some tips so you can raise the bar with young stock management and performance.

text Rachael Porter

An ad-lib supply of clean water is a prerequisite for early solid feed intake, good rumen development and subsequent growth. Provision of water is also among one of the five key freedoms that every calf has a right to – freedom from thirst, hunger and malnutrition.

Table 1: Rumen development and water intake

milk replacer fed	low (21.6kg/calf)		high (32.4 kg/calf)	
	no	yes	no	yes
water available to weaning				
calf live weight at start (kg)	52.7	45.8	56.3	50.1
DLWG to weaning (kg)	0.33	0.55	0.43	0.65
calf starter concentrate to weaning (kg)	10.4	26.3	10.0	25.4
calf live weight at 11 weeks (kg)	97.8	99.6	106.2	111.8

Source: WIRS/Volac

But almost 10% of farmers with computerised feeding systems who participated in a survey carried out by Writtle College, in conjunction with leading animal nutrition company Volac, failed to provide their calves with ad-lib water until they had reached an average of 25 days old, while some did not introduce water at all until weaning.



Bottle takes the pain out of training

'Training' bottle for young calves

Dairy Spares has launched a training calf bottle, which is ergonomically designed with a forward weighted shape, to teach a young calf to suckle. The design is fitted with the patented Milk Bar teat for good calf health. The teats come in black and yellow, with yellow being softer for colostrum. Both are easily replaceable, according to the company.

The Milk Bar trainer bottle holds three litres of milk and has extra strength to make it durable. The bottle also has a textured finish for an easier grip. The Milk Bar trainer bottle is available from Dairy Spares priced at £16.75+VAT.

Colostrum management system should improve immunity

At the Dairy Event and Livestock Show Frank Wright Trouw Nutrition International launched an integrated colostrum management system, that will help to ensure that calves get off to the best possible start, which should translate into better lifetime performance.

"The ruminant is the only animal born with no immunity, so it is vital that it receives an adequate feed of high quality colostrum within the first few hours of life to ensure a sufficient supply of immunoglobulins," explains the company's technical adviser Amanda Sutton.

"Data from Europe and the US indicates that as much as 60% of colostrum produced is inadequate to transfer high enough levels of immunity to the calf, while the management of high IgG frozen colostrum on farms is often poor. Excessively rapid thawing, for example, can damage immunoglobulins, thereby reducing the value of the colostrum."

The ColoQuick system, which has been proven through us in Danish dairy herds, is a total management system based on a tested colostrum bank that ensures that all calves



The ColoQuick system offers greater control

receive enough good quality colostrum to provide for an effective immune system.

The system comprises a colostrometer, bags and filling equipment, and a water bath system.

Rather than feeding calves fresh colostrum from their dam, the system involves the use of guaranteed quantities of frozen colostrum, which has been

assessed for quality using the colostrometer. The cow is milked and her colostrum is either frozen or discarded depending on quality.

Using single-use bags to ensure hygiene, four litres of suitable quality colostrum are frozen using a system that maximises the surface area to allow safe and effective thawing of the colostrum.

When a calf is born, the stored colostrum can be gently but quickly thawed using the water bath and high-surface-area warming cage. It is ready to feed via a teat or tube within 15 minutes.

"The ColoQuick system gives producers total control over colostrum management and ensures that calves get the essential immunity they require. Only suitable quality colostrum is used, leaving nothing to chance. And the thawing cage and the large surface area provided by the bag ensures that the colostrum is thawed rapidly without significant degradation of the immuno-globulin level," says Ms Sutton.

"Research shows that calves that develop an effective immune system grow better and go on to be more productive when they themselves calve down. And the cost of ensuring quality colostrum is small compared to the costs of treating sick calves."

The survey contributed towards a study of calf rearing strategies on rearing units using computerised feeders and carried out by Nicola Blackie and Emma Bleach. "The results were very surprising, particularly since the survey was conducted among 340 producers who would otherwise be considered to have been among the more progressive and technically aware," says Dr Blackie. "Yet it seems that producers are confusing milk and water and their specific value to the calf. Milk is a feed which bypasses the rumen and is digested in the abomasum."

Essential 'drink'

"In contrast, water should be viewed as an essential 'drink' as, without this, the calf will eat less dry concentrate feed and this, in turn, will delay rumen development," she explains.

"Imagine eating a packet of cream crackers without a glass of water or cup of tea to hand – it's exactly the same scenario for a calf. For a calf to achieve a healthy, well-developed rumen prior to weaning, and subsequently avoid suffering any post weaning checks, then it must be fed not only its milk replacer feed, but also an ad-lib supply of clean drinking water to ensure maximum uptake of dry food – concentrate and also straw."

Trials carried out by Volac clearly demonstrated that calves offered water, regardless of the amount of milk fed, consumed higher levels of concentrate and had higher daily live weight gains to weaning, according to the company's calf specialist Maggie Gould. And the benefit from improved early growth continued through to 11 weeks.

Overall live weight gain to weaning was reduced by more than 33% in calves that were not offered water up to weaning (see Table 1). |

