

Get your heifers off to a good start and calving down at 24 months old

Colostrum and clear targets

Follow best practice – from birth through to service – and maximise the chances of your heifers reaching first calving. We have some tips and pointers from a leading calf nutritionist, as well as a producer who's having considerable heifer rearing success.

text **Rachael Porter**

Every year 14% of heifers of live-born heifers fail to reach first calving. Add that to the 8% of calves born dead or that die within the first 24 hours and the figure is even more shocking.

The good news is that these high levels of losses can be reduced by improved management practices at key times to protect calf health and improve heifer growth rates.

Just a few easy steps to help reduce early losses at and around calving include improving observation of the

calving pen to ensure animals requiring assistance get adequate and timely help. It's also important to make records of cows expecting twins so that adequate calving assistance can also be given to these animals.

And ensure that heifers have an adequate body weight and frame size at first service – but are not too fat at calving – to help reduce calving problems.

Colostrum should be the focus of attention immediately after birth, according to Volac's Jessica Cooke.

"Colostrum is the fuel of life, that's a



Jessica Cooke: "Colostrum should be the focus immediately after birth"

well-known factor, and it is, without doubt, the cornerstone to all successful calf rearing enterprises," she says.

Passive immunity

Colostrum not only helps to protect the young calf against diseases for the first

Best start: colostrum protects the young calf from disease and also provides essential nutrients for growth and development



colostrum – the essentials	why?
1. Collect colostrum from the first milking and within six hours post calving	Colostrum collected within six hours of calving will have the highest antibody levels
2. Test colostrum quality with a colostrometer	Colostrum quality varies enormously between individual cows – quality cannot be determined by eye
3. Feed with a teated bottle or a stomach tube	Ensures each calf receives the correct quantity
4. Feed as soon as possible after birth and always within three hours	The earlier the calf is fed, the more antibodies it will absorb
5. Feed a minimum three litres within the first three hours, and a further three litres within 12 hours	Feed the calf as much as possible – the more the better
6. Freeze good quality colostrum in zip-lock freezer bags – freeze within two hours after collection to reduce bacterial growth	Ensures a supply of good quality colostrum at all times
7. Use colostrum from your own cows, as long as they are Johne's free	Colostrum from cows in your herd will contain antibodies that are specific to the bugs and diseases on your unit

Table 1: Essential tips on colostrum feeding and management

few weeks of life, but it is also a rich source of nutrients that are important for calf growth and development.

“However, as many as 50% of calves born in the UK do not receive sufficient colostrum to provide them with the necessary protection,” adds Dr Cooke.

The key figures here are a minimum of three litres within the first three hours, and a further three litres within 12 hours.

It's vital to remember that the number of protective antibodies absorbed by the calf will depend upon the starting quality of the colostrum – the higher the starting concentration, the more antibodies the calf can absorb. “A much higher volume of poor quality colostrum will have to be fed to offer the same level of protection as a smaller quantity of good quality colostrum. Calves may be

getting enough colostrum, but if it is of poor quality then it will have little effect on boosting their health.

“If in doubt about the effectiveness of your colostrum management, ask your vet to run some simple blood tests to determine whether your colostrum feeding programme is creating adequate passive immunity in your calves,” she says.

Best practice

One producer who knows the importance of feed plenty of good quality colostrum to new-born calves is David Woolley.

He wouldn't go as far as saying he's a shining example of 'best practice' calf rearing, but he's certainly making every effort to perfect calf rearing techniques at Moscar Farm, near Bakewell in Derbyshire. “We've always worked hard

to rear fit and healthy calves and achieve good growth rates,” says David, who runs the 122-hectare livestock farm with his father, a full-time worker and some weekend help from his brother. “We have adapted our system to make the best of our resources.”

This has meant breeding robust, trouble-free cattle for the 200-cow herd and the New Zealand Friesian is currently being favoured for its easy-care and low-maintenance characteristics. They are also good foraging cows – David relies on grazed grass, grass silage and wholecrop wheat with the aim of minimising the herd's reliance on bought-in feed.

“We look for 7,000kg of milk, but with good quality as the milk is sold to Cropwell Bishop Creamery to make Stilton cheese. We calve in two blocks with a bias towards the June-to-August

Early warning system wins award

A system to detect pneumonia in calves two days before they develop any clear clinical signs has scooped the first ever Nick Bird Award.

Developed by Doug Fleming, an agricultural engineering graduate from Harper Adams University, the prototype sensing system was described by the competition judges as ‘a simple, commercially-viable solution to the problem of bovine respiratory disease in cattle’.

Integrated into automatic milk feeders, it comprises a non-contact temperature sensor situated close to the calf's eye when it drinks.

“The sensor notes the time and the temperature of individual calves using the auto ID on the feeder,” explains Mr Fleming. “It determines a ‘normal range’ for each calf and flags up anything that is out of the ordinary.”

He adds that in commercial trials the

system identified calves two days before they developed the typical first clinical signs of calf pneumonia.

“At that point, the producer and vet can intervene and treat the calf before symptoms develop further.

“Catching BRD early – before it really takes hold of the calf – is key to successful treatment,” he adds.

The Nick Bird Award was set up by Reading-based company Farmex in recognition of the work carried out by Nick Bird, a director of the company who passed away earlier this year.

The award is for an outstanding piece of work that involves recorded observations of an agricultural process, data analysis and interpretation, and demonstrates added value for producers.

Doug Fleming receiving his award from Karen Bird





David Woolley: "I'm making every effort to perfect my calf rearing technique"

block and then a smaller group between January and March.

"If a good cow calves outside this time we won't get rid of her, but we breed all the heifers to dairy and we aim to calve them within these blocks. It helps our labour and it brings variety to our work through the year," he adds.

Of course the other benefit of block calving is calf management. A new calf rearing building has been operational for the past 15 months. This purpose-built house has pens for groups of 25 calves from between six and eight days old – once they are vigorous feeders from a teat – through to weaning at 60 days. "Calving in blocks means that we can rear larger groups of calves and we also have times when the house is empty so it can be thoroughly cleaned and rested."

Precision feeding

David worked closely with his vet, James Dixon at Westpoint Vets in Ashbourne, on the calf rearing system and, helped by a RDPE grant, he invested in an automatic milk feeder. This saves David's father a lot of work and is a more precise way of feeding calves. "Calves were in small groups and fed with buckets. They did well – stone and slate buildings

are ideal for calves. But cleaning out was hard work and time consuming," says David. "We have also doubled cow numbers during the past 10 years and so we needed more space."

Like any expansion, that brought its own set of challenges and disease control was one of them. "You can manage any disease outbreaks easier when calves are in small groups, but if it gets into pens of 25 you're in trouble.

"We had an early scare with an outbreak of Cryptosporidia. We didn't lose any calves, fortunately, but we now pre-empt possible problems by ensuring good hygiene around calving and colostrum management, as well as using a preventative drench. This reduces the severity of the disease and the number of oocysts shed into the environment."

Cows are also vaccinated against Rotavirus and the antibodies pass through the colostrum to the calf.

Nutrition is obviously the key to achieving David's calf growth target of between 0.7kg and 0.8kg per day. "There's a lot of choice of milk replacers out there and we tried a whey-based powder, but it didn't work so well.

"We're now using Provimi's ProviMilk Professional. It's a skim-based product and it works well through the feeder. Above all, calves perform really well on it."

Calves are also offered ad-lib specialist

creep feed from seven days old, as well as fresh water.

"We make sure the creep is fresh and enticing to encourage calves to eat it and that way they are well prepared for weaning.

"We don't find that they suffer from any growth checks – we don't want to undo any of our hard work."

Healthy heifers

Targets are clear. David wants heifers to calve at two years old, but he will only serve a well-grown animal that is mature enough – otherwise he waits six months so she falls into the next block.

There's no hard and fast rule. "But seeing healthy heifers grow well and calve at two years old is rewarding and a good start to their lifetime productivity."

Always looking for improvements, David will start weighing calves to monitor growth more precisely.

"We now rear twice as many calves and milk twice as many cows with the same labour force," he says.

And although the automated feeder provides an 'error report' of calves not feeding properly, they know that good stockmanship is still a vital ingredient. "We make a conscious effort to spend time observing groups of calves – it's an important part of the system that mustn't be over-looked." |