

Feed to maximise potential

Closer attention to calf rearing is required to meet vital growth targets

It's not just what you feed calves from birth through to post weaning that determines whether targets are met, it's also how you feed it. We look at some of the latest thinking on nutrition to optimise heifer calf growth and to help ensure that producers meet heifer rearing targets.

It's essential that calves get off to the very best start possible if heifer growth targets are to be met and the cost of rearing heifers kept to a minimum. NWF national calf specialist Rob Warrington believes that producers must pay particularly close attention to the first 12 weeks of a calf's life. "Producers need to appreciate that what they are rearing is not a calf, but a replacement heifer that has a potential value of £1,500," he says. "The calf stage is a crucial step and how the first 12 weeks are managed significantly affects the entire growth period." Mr Warrington explains that producers will typically aim to calve heifers at two years old, but the reality is that most

heifers calve at closer to 27 months. And part of the failure to hit calving age targets is sub-optimal growth rates in the first 12 weeks of life.

Growth targets

"To achieve sufficient size to calve at 24 months of age, a calf needs to weigh 100kg at 12 weeks old," he says. "From birth to weaning, calves need to grow at an average of 4kg per week. And when weaned at 49 days old she must already weigh 69kg and be able to maintain a growth rate of 5kg per week." Mr Warrington adds that unless calves are being regularly measured and weighed it is quite easy for them to fall, unnoticed, below the target growth

curve, leading to potential problems. So NWF has now taken on a system, developed in Holland, that uses a weigh band to measure calf chest girth to assess calf weights and growth rates.

"The management protocol followed must be geared up to produce the target growth rates. After three days on colostrum, calves should receive two litres of milk replacer twice a day for 10 days, building up to three litres twice a day."

Mr Warrington believes that automatic calf feeders can play a significant role here. "As well as ensuring a consistent supply of milk and freeing up labour for other tasks, the feeders can provide valuable management information, helping to spot calves that aren't feeding."

While calves are on milk it is also essential that the rumen is being developed so it can effectively digest forages post-weaning. "Many calves are just not fully prepared for weaning so when milk supply is stopped they are not able to effectively digest the new diet, leading to a deficiency in nutrient supply and a fall in growth rate," he says.

"It is not unusual for calves to suffer a growth check equivalent to two weeks growth, around 10kg, when the rumen is not properly developed."

The key to effective rumen development in calves is the early inclusion of forage in the diet and trials in Holland have shown better growth rates where high fibre levels are included in a palatable concentrate.

Where calves are fed pellets containing lucerne and other quality fibre sources to achieve a minimum 14.5% NDF, the rumen villi develop more rapidly than where long fibre was the only source available.

Latest research has shown that calf growth rates and feed efficiency can also be improved by adding a more precise balance of amino acids. Specialist feed company, SCA NuTec, has used these findings to reformulated its range of



Calf potential: will your feeding management maximise it?

milk replacers and is confident that producers can achieve improved calf performance.

Animo acid balance

Recent work carried out by SCA's parent company Provimi, as part of its global research programme, compared the performance of groups of calves fed milk replacer with varying levels of crude protein and combinations of amino acids.

The aim of the trial work was to look at the effect of supplementing milk replacers with key amino acids,

particularly lysine and methionine. All milk replacers used in the trials contained 17% fat.

Groups of Holstein calves under five weeks old were fed diets of 24% and 26% crude protein, with and without a combination of methionine and lysine. Calves were fed 0.681kg of powder from day one to day 28 divided into two equal meals. Growth and intakes were monitored and the results are shown in Table 1.

Improved growth rates and feed efficiency were seen at each protein level where the amino acids were added.

Results showed a 16% improvement in average growth rate in the group fed a 26% crude protein milk replacer with added amino acids and an 18% improvement in the 24% crude protein group compared to the respective groups without amino acid supplementation. Feed conversion rates also improved significantly in both groups receiving amino acid supplementation.

"We have carried out more studies on

specific levels of these key amino acids in calf milk replacers," says SCA's ruminant nutritionist Norman Downey. "As a result, we now know specific requirements and the ratios of each that are required to optimise growth rates and we have used this information in reformulating our range of calf milk replacers.

"We are now confident that we can offer UK producers a range of milk replacers that have the combination of key amino acids that most closely match the requirements of the young calf.

"Amino acid technology has been part of pig and poultry nutrition for a while, but the complexities of the young ruminant has made research in this area more difficult and until now detailed knowledge has not been available.

"By applying the new research we can now offer the optimum amino acid levels in the milk replacer formula and provide a cost-effective route to improving calf growth and efficiency."

Rachael Porter

Back-to-basics approach boosts calf performance

A comprehensive management and nutrition programme, devised by feed specialist Lilloco Attlee in conjunction with Westpoint Farm Vets, has transformed the fortunes of a Kent dairy herd that had struggled to match its performance with its genetic potential. Until six months ago the Edgar family had experienced significant problems with calf scours and pneumonia at Park Farm, Brasted. Despite more vet input and associated costs, calf mortality remained high, while low heifer growth rates prevented them from achieving 24-month calving with adequate frame size.

"In the past we suckled calves on the dam and fed waste whole milk, but scouring was a problem and losses peaked at 15%," says David Edgar. "But

since we introduced the Calf-Vantage System, calf health has improved dramatically, veterinary costs have been greatly reduced, calf mortality has fallen to 3% and performance is in the top 5%, based on the Holstein Standard Growth Curve. Our heifer calves now look exceptional, are much healthier and exhibit ideal frame growth."

"Producers must focus on calf and heifer rearing," says the herd's vet Jon Mouncey. "Good performance depends on getting the basics right, with colostrum having a huge impact on lifetime growth and health. The calf must receive between three and five litres as soon as possible after birth – preferably from a teat to establish a good sucking reflex – and a minimum of six litres in the first 12 hours."