On most dairy farms the milking herd is the undeniable focus, but rearing calves to maximise lifetime milk yields is becoming increasingly important. **Jennifer MacKenzie** reports.

Monitoring calf growth to keep them on track

For a dairy heifer to calve her first at 22-24 months of age means as a calf she needs to be averaging growth rates of 850g-1kg a day which can be a challenge on some dairy farms.

This is so they can be bred at 13 to 15 months old, by which time they need to have reached 60% of their adult bodyweight.

To spread the message XLVets has launched a back to basics scheme to help dairy farms accelerate growth rates in young calves, and this was based on a similar one run by XL-Vets' Westmorland Veterinary Group, Kendal, led by vet Kirsty Ranson.

Kirsty said: "On many dairy farms the milking herd is the focus and it can be a struggle to find time for the calves. Striking the right time balance between the two is the key."

To help Westmorland's dairy clients re-focus some time on calf rearing, a healthy heifers competition was run.

Targets were set for calf performance and farmers recorded some key parameters. Growth rates were calculated and any illnesses and deaths recorded.

Kirsty Ranson says it is important to find time to assess your calves.

After an initial free introductory period, farmers paid a small monthly charge to cover the extra vet time on-farm and the cost of blood tests and six-monthly data analysis.

Of the 25 dairy farmers who signed up, 18 completed a full data set which was collated at Westmorland and has enabled benchmarking across the different farms and rearing systems.

Vets would look at the calves during routine fertility visits and calves less than two months old had their weights measured either using weigh bands or weigh cells to calculate their growth rates.

Recording

"We took blood samples to assess colostrum intakes and asked farmers to record all mortalities in the first eight weeks of life and the number of pneumonia and scour cases in each three-month period. Bulling weights and calving dates were also recorded by some," says Kirsty.

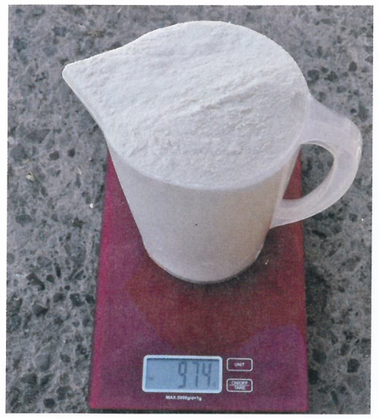
One area of focus includes checking antibody transfer. To assess how well antibodies were being transferred from the colostrum and conferring immunity to the calves, measurements of 'total protein' were taken. This involved taking blood samples from calves of one to eight days of age.

"If the total protein result is less than 5.5g/dl, this indicates inadequate antibody transfer – it could be due to poor quality colostrum and/or poor intakes.

"In the initial screening of Westmorland clients, only three out of 171 calves had poor antibody levels. These were calves which had been left to suckle for themselves. It is also useful to look at the average reading for a batch of calves and the variation. Interestingly, those farms with a protocol to stomach-tube all newborn calves had the least variation in antibody transfer levels."

Kirsty believes milk replacer is being underfed on many farms, immediately limiting calves' growth potential. In fact, almost all of Westmorland's clients in the competition had not been feeding enough powder.

"First of all, it's important to weigh the powder out. A set of electronic kitchen scales is not an expensive investment to ensure the correct amount of powder is used.


Use scales to check weight in container.


Changes to a better quality concentrate can help boost calf growth rates – see p24.

"The other error that is often made goes back to the time when whole milk used to be fed – calves would be given two litres, twice a day. But when the switch is made to powdered milk, a common mistake is to continue to feed the two litres and at the same time follow the instructions on the bag label which might suggest 125g of milk powder per litre. This would mean calves would be getting only 500g per day from four litres.

"However, if they are to achieve the required growth rate of 850g-1kg/day in the first eight weeks, then they need to be fed at least 850g of milk powder a day. So double the amount is going to be needed."

Calf jackets are a benefit once the ambient temperature drops below 10degC when calves must burn energy just to maintain their core body temperature. This diverts energy away from 'powering' their immune system and from growth.

Fitting jackets to young calves will provide them with insulation and protect them from draughts so they are not using energy just to keep warm. Studies have shown calf jackets can reduce feed costs and can improve weight gains by 5kg over 12 weeks.

Attention to detail helps reduce age at first calving

»Paying more attention to actual – and not perceived – growth rates of calves and altering calf-rearing protocols, has enabled Darren Dodgson to reduce heifer age at first calving by four months (120 days) in the space of a year.

At Cracalt Farm, Kendal, Darren milks 100 cows with average yields of 8000 litres/cow and calves all year round.

As part of her fortnightly routine fertility visits, Kirsty now also takes a look at the calves, takes weigh band measurements, and advises on changes in management. Darren estimates this only adds about 10 minutes to her visit, with most of the major changes already made.

Kirsty says: "Darren uses several buildings on the farm to keep calves in and like many farms some are not ideal with limited ventilation. So I've advised him to spread the calves around, rather than fill one building, to reduce any disease pressures."

Calves are spread around the farm buildings to reduce disease pressures.

> "The hay has been dropped out of the ration – it's poor in nutritional value
>
> **Kirsty Ranson**

Calf jackets

Darren has also started using calf jackets. Kirsty adds: "They also allowed Darren to open more of the shed doors and improve the ventilation, as draughts were less of a concern now the calves had jackets on."

A change in concentrate ration was made at the beginning of the year. Darren used to feed calves on whole milk, hay, water and a concentrate, but has now switched to giving the calves milk replacer from four days of age, and changing the concentrate to one which includes chopped straw and is fed ad lib.

"This adds more fibre to the diet and aids rumen development. The hay has been dropped out of the ration – it's poor in nutritional value," says Kirsty.

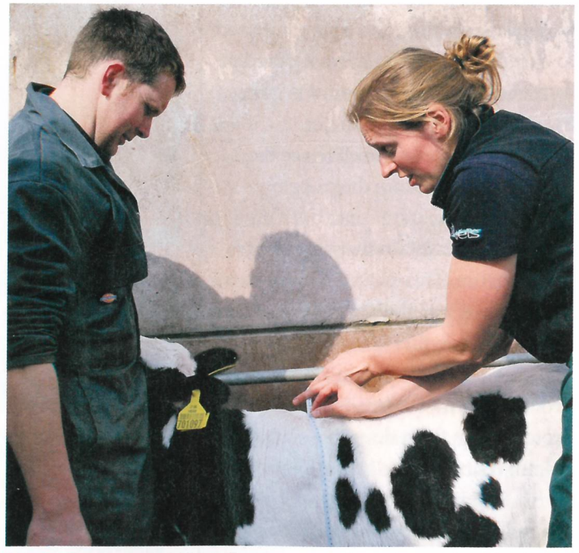
At the start, back in August 2014, two batches of calves were measured and growth rates were calculated to be 760 and 790g/day.

By September, on Kirsty's advice, Darren had increased the daily milk powder ration to 850g per calf each day – to make a more concentrated milk than the bag label instructions advised. This led to growth rates increasing to 830g per day and not far off the target 850g-1kg/day.

In January 2015, Darren reached the target after switching to a better quality concentrate, fed ad lib. Along with the use of calf jackets, calves were now gaining 860g/d. Further weigh-banding in March showed gains of 870g/d, and in June they were achieving 920g/d.

Darren adds: "The calves used to look like they were doing well – their coats were shiny and there weren't many problems with scour or pneumonia. But it's only been because of the measuring that I've been able to appreciate how much better they could do.

"Now I'm feeding them better, they are growing better and so they can go for breeding sooner. In fact, four months sooner than previously. And I notice the heifers coming through now are larger in the frame, not just heavier."



Darren Dodgson and Kirsty Ranson assessing calves at Cracalt Farm.

Use of calf jackets has helped Darren achieve target growth rates.

Calf Tracker scheme

▸▸XLVets is running its Calf Tracker scheme to help farmers to improve calf growth rates in the first eight weeks of life. The initiative is based on measuring and monitoring five key performance indicators (KPIs):

1.Growth rate to weaning: Record birthweight and date, record weaning age and weight.

2.Total mortality: Keep a tally of calves that die between 0 and eight weeks of age.

3.Pneumonia rate: Record the number of cases in a three-month period and divide by the total number of calves on the ground.

4.Scour rate: Record the number of cases in a three-month period and divide by the total number of calves on the ground.

5.Total protein: Vet to blood sample calves at one to eight days of age and review the average and the variation.