

## ONE SMALL CHANGE PROMISES 470KG/HEAD EXTRA MILK FROM HEIFERS

Relocating calf pens from a traditional stone barn into a purpose-built, well ventilated, single span shed might be expected to improve calf health somewhat. For David Martin at Lords Plain Farm south of Kendal in Cumbria, things did indeed get better initially, but not to the extent that he or his vet Mark Stott from the Farmgate practice were expecting.

Expansion of the milking herd to 225 cows meant the old barn had become too small for the number of calves. The 11,100 litre/cow, 4% butterfat and 3.07% milk protein, herd is mated 90% to Holstein and 10% to beef sires. Holstein bull calves are sold to a neighbour at two to three weeks of age for rosé veal, while beef calves are also sold locally at four to six weeks.

Within six hours of birth, all calves get four litres of their own mother's colostrum, followed by another two litres the same day. For the next three days, they continue getting their own mother's milk before moving onto calf milk replacer, starting at four litres a day and rising gradually to seven, on a computer-controlled machine. Water, dry feed and fresh straw are available from day one.

The first batch of calves through the new shed performed well, according to Mr Martin, but batch two were noticeably slower growing and some required antibiotic treatment for pneumonia. This prompted vet Mark Stott to carry out two kinds of blood test. The first was on calves under a week old to determine if sufficient antibodies were being absorbed from colostrum and this revealed excellent results.

The second test was on a group of six month old calves for evidence of their previous exposure to common respiratory pathogens. These results were negative for BVD, IBR and *Mycoplasma bovis*, and positive for RSV and PI3, which he says are the two most commonplace viruses that cause respiratory disease in infant to recently weaned calves.

Having started to monitor pre-weaning growth rates on moving into the new shed, David Martin saw a dip in batch two to 0.69kg/day. Either side of this average, the range from best to worst individual was 0.8 to 0.55 kg/day. Mark Stott observed that even the best performers in batch two were growing below par for the feed rate they were on, suggesting the entire group may have been affected by the respiratory infection, even though not all showed clinical signs.

Based on the blood tests and growth rates, Rispoval® IntraNasal, a vaccine against RSV and PI3, was administered at nine days of age to the next batch of calves into the new shed. With no other management or nutritional changes - indeed, the computerised feeder confirmed no difference in milk replacer consumption - this group's average weight gain was 30% higher at 0.9kg/day than the previous one, the range among individuals being 0.83 to 1.1.

In addition to the pre-weaning period, Messrs Martin and Stott have also been monitoring growth rates from six to 12 months of age and found them most recently to be averaging 0.8kg/day. For David Martin, this is critical to reaching the target of calving heifers at 24 months of age and a post calving weight of 630kg.

As well as hitting this target, there are at least two additional dividends from high pre-weaning growth rates, according to Mark Stott. "Each additional 0.1kg/day growth during the first two months of life has been shown to be associated with about an additional 225kg milk in the first lactation," he says.<sup>1</sup> "On top of this, there is also a correlation with higher survival to the second lactation."<sup>2</sup>

On milk yield alone, Mark Stott reckons that batch three can be expected to out-yield batch two by 470kg each, worth about £150/head, in their first lactations alone. He also cautions that attempting to correct slow calf growth by higher weight gain in pregnancy is a mistake, because this has been found to have a negative impact on first lactation yields.<sup>3</sup>

For David Martin, weighing calves is now routine practice in pursuit of calving heifers at two years of age. "Over the past year, our age at first calving was 25 months on average," he says. "So we're nearly there, but don't want a nasty shock that this has gone the wrong way, just because we weren't watching the right things," he says.