

Early intervention offers maximum cover

When it comes to preventing bovine respiratory disease, one Devon-based unit has all the bases covered. We spoke to the producer and his vet to find out more.

TEXT RACHAEL PORTER

Gold standard, belt-and-braces – however you label the approach taken by Devon-based producer Tom Dibble, it's ensuring that the next generation of milkers at his 900-cow unit get off to the best possible start. With such a large herd to manage, including 650 followers at any one time, it's little wonder that Tom and his vet, Rob Mangham, have taken an approach that leaves nothing to chance, as far as calf pneumonia is concerned.

"We're calving all year round, milking three times a day, and selling 12 million litres of milk a year," explains Tom, who manages his herd of predominantly Holstein cows at Bycott Farm, near Exeter. "It's busy all the time and so it's important that we run the herd as smoothly as possible. Preventing disease – and the costs and labour associated with that – is key here."

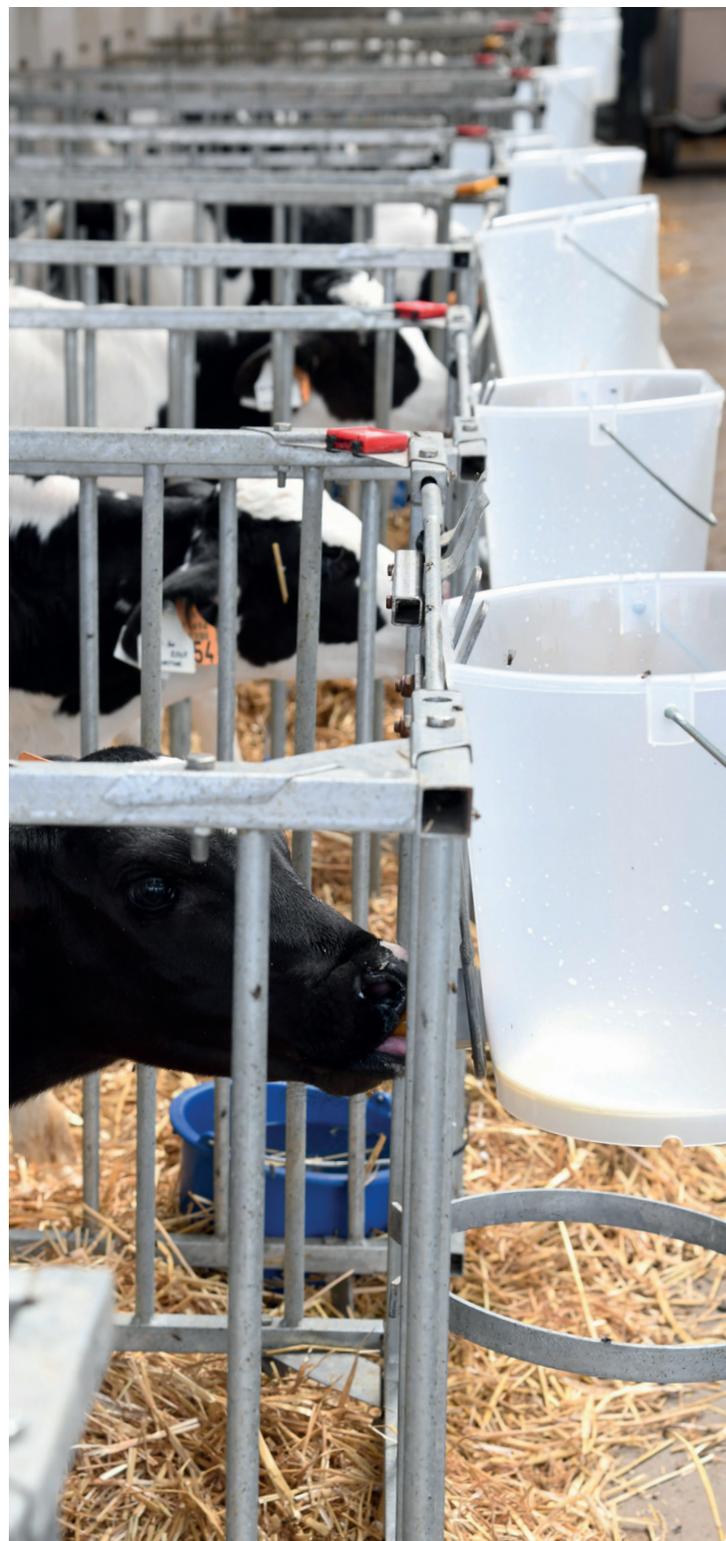
Vet Rob, from Wellington-based Mount Vets, agrees and works closely with Tom and the herd. "The belt-and-braces approach that we take with calf vaccination protocols is about protecting Tom's investment in – and the future of – the herd."

Key to that is protecting calves from disease and this starts early, with dams vaccinated against calf scour. This offers passive immunity against some enteric infections, such as rotavirus – a major cause of diarrhoea in calves. Dams are vaccinated with a combined vaccine against coronavirus, rotavirus and E coli.

"We then follow a strict colostrum feeding protocol, to ensure that the calves receive enough immunoglobulins to support their immunity from other diseases in the environment," says Tom.

Rob Mangham:

"Using an intranasal vaccine in the first instance is vital to the success of this approach"



Cows are calved in dedicated pens, away from the rest of the herd, so dam and calf get the time and attention that they need at this critical time. “And we’ll feed colostrum, initially at least four litres from the dam to ensure that they really do ‘max out’ on those all-important immunoglobulins.”

Tom, who runs the unit in partnership with his parents Steve and Ali, has been using sexed semen on all maiden heifers and the top 15% of the herd since July, so protecting this additional investment in the next generation has become all the more important. “Why go to the trouble of making sure we streamline our system, by selecting only the best cows and heifers to breed replacements, if we’re going to let disease limit their growth and genetic potential?”

While vaccination isn’t a silver bullet, he says their approach is certainly working. “Our unit has its limitations, just like any other. Our buildings, for example, are less than perfect. We’ve expanded the herd from just 140 cows 15 years ago, and this has put the unit’s facilities under some pressure.

Next step

Calves are then housed in hutches until they’re at least eight weeks old and then housed in groups, according to age. “We work hard to maintain good ventilation, particularly when calves are housed in groups, and to keep calf housing clean, dry and draft free. Hygiene, particularly around feeding, is top notch and we also have robust colostrum feeding protocols in place.

“Vaccination was the next step for us, in a bid to prevent disease and keep our calf health on track to calve heifers at between 22 and 23 months old,” explains Tom.

All calves are vaccinated, intranasally, with Bovalto Intranasal, at between 10 and 17 days (Tom vaccinates in batches once a week) to make sure that they are protected against the main respiratory viruses – RSV and PI3 – for a full 12 weeks.

This is then followed up with two subcutaneous booster vaccinations with Bovalto 3, three weeks apart at three months old, that protect the calf from PI3 and RSV for a further six months, from three weeks after the second vaccine, until she’s nine months old. This vaccination programme also provides protection against bacterial pneumonia caused by Mannheimia haemolytica.

“Tom typically administers the first shot when he groups the calves for weaning at between eight and 12 weeks old. And follows this up three weeks later,” explains Rob. Using an intranasal vaccine in the first instance is vital to the success of this approach, because it means the vaccine stimulates an effective and fast acting immune response and also is not affected by maternally derived antibodies (MDA). If a vaccine was administered by injection, rather than intranasally, in other words systemically, then the antibodies from the dam’s colostrum already in the calves bloodstream could, essentially, ‘clash’. “The intranasal vaccine mimics the real virus by arriving through the mouth and nose. It offers fast acting and local protection, acting as a firewall to stop the wild virus, and isn’t affected by MDA,” says Boehringer Ingelheim Animal Health’s Ailsa Milnes.

“Administering an intranasal vaccine, priming the mucosal immune system, means that it acts as a ‘sentry’, guarding the calf from additional disease challenge. It



Tom Dibble: “Vaccination was the next step for us, in a bid to prevent disease and keep our calf health on track”

provides a first line of defence, with back up from the antibodies that are already in the calf’s bloodstream from its dam’s colostrum.

“And when a subcutaneous vaccination is administered, when the calf is three months old, there’s more rapid production of antibodies in the calf’s bloodstream due to the initial exposure of the immune system to the intranasal vaccine. We’re essentially covering multiple aspects of the immune system and at the most optimal times,” adds Dr Milnes.

“I then follow up with the second shot of the subcutaneous vaccine. Once the calves are weaned and the forage intakes really start to take off – at about 16 weeks – they’re much stronger than they were prior to introducing the vaccination protocol and I feel like we’re out of the woods, when it comes to respiratory disease,” says Tom. “If I’m going to serve heifers at 13 or 14 months and calve them for the first time at between 22 and 23 months old, I want to avoid disease and the associated growth checks.

“By 15 or 16 weeks old, we’ve already invested a considerable amount into the heifers and worked hard to protect them from disease and achieve good growth rates. Typical pre-weaned daily growth rates are between 1.1 and 1.2kg LW for pre-weaned calves, post weaning growth rates rise to 1.2 to 1.3kg LW.

“Why would I jeopardise that when I can protect them from respiratory diseases for another six months?”

“In my experience, if a heifer sees the needle for pneumonia treatment then her age at first service goes up to 15 months. Ideally, I want to see them bulling and served at 13 months. And I go on size – I want them to be around 52 inches – about 1.3 metres – at withers height at first service.”

Vaccination protocols

Tom knows at 12 months old that his heifers have grown and developed sufficiently to successfully calve at 22 to 23 months of age. And that calving them at this age offers other benefits, including higher milk yields in their first and second lactation and also a longer and more productive life in the herd.

“At five months old, Tom’s heifers are easily able to digest forage – they transition well from their ‘monogastric’ status because they’re well grown and there’s been no disease challenge,” says Rob.

This is testament to the success of the herd’s approach to calf rearing. “There are no ‘open doors’ for disease to get in and check growth, compromise welfare and push up rearing costs,” adds Tom. “Our vaccination protocols are extremely thorough – some might say too thorough. But looking at the health status of our calves and our replacement rearing success, coupled with the peace of mind that comes with vaccinating to prevent disease, I’d say that it’s money well spent.” |