

Tips on safeguarding – and boosting – heifer immunity both pre and post calving

Protect your heifer investment

Heifer 'transition' can be fraught with problems. But a strong immune system will go a long way towards protecting the next generation from both production and infectious diseases and lay the foundations for a long life in the milking herd. So why, at and around calving, is it so often compromised on many dairy units? We spoke to three vets to find out more.

text **Rachael Porter**



Mastitis, metritis, LDAs, ketosis. Just a few of the production diseases seen in freshly calved heifers that could, on the whole, be avoided through better management, according to Shropshire-based Lambert Leonard and May's vet Bill May. "But it is not surprising to see these problems – it's no easy task to support her immune system. There are many pitfalls that producers need to work hard to avoid from birth right through to them joining the milking herd." He says the majority of problems he sees are 'post production disease' fertility issues. "Which inevitably result when health has been compromised. Poor immunity and the inability to avoid production disease and fend off infection, around calving, has a huge impact on fertility and incurs significant cost."

Rearing period

Mr May believes that many immunity issues begin in the rearing period, often before the heifer is even in calf. And West Sussex-based independent dairy vet Rob Drysdale agrees: "It often elicits a groan from producers at heifer rearing workshops when I say it, but feeding enough top quality colostrum to the new born heifer is where it all starts. "And that's just the beginning. Protecting

Heifer development: udder growth and colostrum production demand energy

her immunity continues throughout the rearing period – any stress or disease can not only cause a check in growth but it can also compromise her ability to fight off infection. So maximising her immunity and preparing her for a trouble-free first calving and lactation is on-going. That's why it can be so tricky to get it right.

"Take your eye off the ball, at any stage during the rearing, pre-calving, calving or post calving period, and it can all unravel. And the money you've invested in rearing that heifer could be in jeopardy."

Mr May says that meeting growth targets is, indeed, critical. "I have seen producers with heifers that have missed growth targets subsequently over feed young stock to compensate. This can result in small framed heifers that calve down too fat. In this instance it's better to concede that targets have been missed and calve heifers slightly older rather than calve them 'prematurely' with all the problems that creates. It's best to learn from the mistake and 'do better next time'."

So pre and post weaning nutrition is vital. As is nutrition during the run up to calving. "Energy intake needs to be sufficient to prepare her for calving," says Mr Drysdale. "Her udder is still developing, she's preparing to produce colostrum and, at this stage, the calf inside her is almost like a parasite. Remember the heifer herself is still growing, while there's also a calf developing inside her. She needs plenty of energy."

Phileo Lesaffre Animal Care's vet Debby Brown agrees that heifers need plenty of energy, particularly close up to calving. But she adds that minerals in the pre-calving ration can also play a key role in boosting immunity. "Selenium, zinc, manganese, iodine, and vitamin E are absolutely vital for good immunity, but are often lacking in heifer diets.

"Where possible, these minerals should be added to pre-calving rations. Special heifer mineral mixes are available. And, where heifers are at grass, a mineral lick or block containing these key elements could also help to boost levels and alleviate any deficiencies."

Disease exposure

Producers must also bear in mind that, as calving approaches, the heifer's immunity status may have already been compromised by disease. "She may have had pneumonia, or mycoplasma, when she was younger. Or she may have the beginnings of a summer or heifer mastitis infection," says Mr Drysdale. "These will

Pointers to maximise and safeguard heifer immunity

- Colostrum – volume, timing and quality are vital
- Calf and heifer nutrition – set and monitor key growth targets and avoid checks in growth. Remember that a heifer should be between 85% and 90% of her mature body weight at first calving
- Avoid heifers becoming too fat. BCS 3 is ideal for calving.
- Minimise stress pre and post calving
- Group in-calf and freshly calved heifers separately where at all possible. Mixing with older cows can create 'social' stress. If mixing is unavoidable, allow heifers between three and six weeks prior to calving to get used to the new hierarchy and ensure that any transition cow groups are not over stocked. A maximum of 90% occupancy is recommended to give heifers space to avoid any 'bully' cows
- Give heifers time to calve – they will take longer than second calvers and older cows, so don't rush them
- Administer NSAIDs to help relieve udder oedema and post-calving pain. Ketoprofen is the only NSAID licensed for use in post-calving udder oedema in heifers.

compromise her ability to fend off disease – production or otherwise. So be sure to keep a close eye on any heifer you deem to be 'vulnerable' and maybe give them some extra special treatment.

"Remember, the aim is to calve her with as few problems as possible and get her producing – healthy and fertile – in the milking herd."

Physical hurdles

He adds that it's also important to think about the diseases that she may be 'meeting' in the milking herd and vaccinating, where possible, according to

best practice. "For me that's as early as possible for IBR – say six weeks prior to calving. And the same for E coli, if that's required. It's best not to 'load in' a lot of vaccines all at once too close to calving – say three weeks prior to calving – because the immune system could already be under additional pressure at this time. So plan ahead."

And think about the physical hurdles your heifers will face post calving. Mrs Brown points out that self-locking yokes at feed barriers can be frightening. "So get them used to them prior to calving. A freshly calved heifer that's afraid to

eat will be immune compromised and vulnerable to disease."

And Mr May adds that making sure that heifers have plenty of space to feed and move around will also minimise stress when they join the milking herd. "Once the job of calving is over, ensuring that heifers get all the energy and nutrients they need to milk, to maintain their health and to get back in calf is vital. So make sure she can get away from any bullies in the herd and that there's easy access to fresh feed and water at all times. It's often the little details that can make all the difference." |

Tomorrow's milkers: protecting your investment in heifer rearing should start with supporting their immunity

