



Dairy cow fertility: Are we bad workmen, or do we have bad tools?

Roddy Webster
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Does the Holstein breed have an inherent fertility problem? Or are we just pushing our cows too hard, expecting too much of them, or not managing them well enough?

Fertility is a controversial subject, undoubtedly - and many people already have a firm viewpoint. But for the undecided, let's look at a few down to earth facts before we judge whether it's us who are the bad workmen, or whether it's our tools that are at fault.

The stock

Holstein cows of today are genetically sophisticated animals, and wholly different from animals of ten or so years ago. They are genetically programmed to produce milk, sometimes even at the expense of their own welfare. Few people argue with that.

At the same time, the way we feed and manage our cows has altered out of all recognition over the last few years. Herd sizes are much larger. We've got a move to 'grass only' grazing systems, or at least as far as we can get away with. And we have TMR fed systems involving large groups of cows.

Fertility

It is not surprising that many farmers have fertility problems because the economics of the industry over the last few years have allowed for few management luxuries. Cost cutting has, inevitably, been the order of the day. Had the economic environment been more favourable, then fertility rates would be better right now as fewer corners would have had to be cut.

Feed levels and veterinary input levels would have been maintained, for example, rather than compromised.

The first calf

Heifers calve down at two years of age, where once they calved at three years. Consequently they are still growing. When they do calve, life changes beyond all recognition. To start with there's the pain and

stress of a previously unimagined calving experience. Shortly after, they are introduced to a new environment and way of life in the main herd, and milking. With that comes a new pecking order; bully cows, tussles over feeding space, intimidation at the water trough and milking.

While they are getting used to all of those, there is the discomfort of a swollen and painful vulva and reproductive tract niggling away as well. After that there is even more pain and discomfort in the udder with the onset of the first lactation. Settling into the harsh new realities of life as a milking cow is tough enough, but with pain and discomfort on top it makes for a thoroughly challenging opening few days and weeks.

For heifers, and older cows too, once lactation yields start building-up, the nutritional conflict between feed intake, continuing growth and demands of lactation kick-in to further drain them of much needed energy and stamina. This energy drain, or negative energy balance, continues for weeks depending on the amount of milk produced, the type of feed supplied and the dry matter intake of the animals.

Finally, despite all that we have thrown at them, we joyfully expect them to start cycling normally as soon as possible after calving, with the first ovarian activity occurring around 10-14 days. When, not surprisingly, many do not, it has become customary to blame the cow, or the breed, rather than the management.

You will have guessed by now that I do not blame the farmer or the breed.

The challenge

All this is not to say that modern Holsteins are always easy to get back in-calf. They aren't. But high yielding cows will always generally be more challenging than lower yielding ones, for obvious reasons.

The challenge for vets and farmers now, though, is to improve fertility rates - using current knowledge and the modern array of tools available to us.

So, how can we improve fertility?

Starting with the calf - yes, you must get your growth rates right in the first two years, which means paying attention to nutrition and parasite control. Don't forget though, that after two years of age, heifers are still growing and parasites can still be a problem.

Worming heifers and young cows at calving is increasingly being practised on many farms and there is an increasing amount of trial evidence showing fertility is improved when young and adult dairy cows are strategically wormed. Although these worms don't cause signs of disease in this age of stock, recent trial

work shows they can have a negative effect on dry matter intake. This is of obvious importance when you consider the principal reason for the negative energy balance in the modern milking cow is her inability to achieve target dry matter intake. Despite the use of TMR and feeding passage, lighting etc, we are still not hitting the mark.

Pay attention to the management regime around calving time. If it's practical, acclimatise your heifers to the main herd and milking parlour before calving. Check that there are enough feed spaces, water troughs, cubicle spaces and room for the animals.

Real discomfort

At calving, pay particular attention to pain relief. The judicious use of a non steroidal anti-inflammatory drug (NSAID) will give pain relief, reduce udder and vulval swelling and minimise the stiffness associated with the inevitable deep bruising. A routine treatment practice should be adopted for all heifers and cows at or near calving especially where assistance has been given.

Quite why an anti-inflammatory/pain relief injection, that needs no withdrawal period, is not routinely given to all cows, especially post-calved heifers, is a mystery. The effect they can have on the wellbeing of animals can be dramatic - as would be expected. They reduce swelling, facilitate healing and can help dry matter intakes that are inevitably affected by pain.

Nutrition

Check how your diet is performing through metabolic profiling, by blood testing your herd routinely. Most farmers do this when there's a problem - when the wheels have fallen off the cart. Doing it routinely will show how the diet is really performing, but it also gives fore-warning of potential problems. It will tell you what the nutritional status of the herd is and will point your vet and nutritionist in the right direction to monitor and reduce that all-important post-calving energy gap.

The traditional focus for fertility was on energy metabolism around the time of service. However recent research would indicate that this is of less importance compared to minimising the energy deficit in the first two to three weeks after calving. It is this deficit that is the biggest single contributor to infertility in modern dairy cows, according to David Whitaker of the University of Edinburgh, Dairy Herd Health and Productivity Service. Profiling does not cost much - it's around £160 for a representative sample for a herd test and can save a fortune!

Many farmers assume that a trace element is the cause of their poor fertility and happily spend money on expensive minerals. In fact, the real culprit is more likely to be the energy imbalance and money would be better spent there than on minerals.

Vaccination

The availability and subsequent use of effective vaccines against Leptospirosis and BVD has minimised the impact of these important diseases on our herds. However, it is well worth keeping an open dialogue with your vet on these issues and regularly reviewing your vaccination strategies in all classes of stock.

Finally, work with your vet to plan an improvement programme for fertility. Use them routinely and preventatively, rather than as fire fighters when there's a problem. Remember, fertility problems are the end result of getting things wrong several weeks or months beforehand. To address the problem requires forward planning, investment in thought, time and effort and proactive management.

Good luck!

The author of this article, Roddy Webster, spent 10 years as a vet in the dairy heartland of Shropshire, has the Diploma in Bovine Reproduction from Liverpool University and has studied veterinary practice on cattle farms in New Zealand. He has recently been employed as a technical vet for Merial Animal Health.