Taking steps to improve herd fertility

Installing pedometers increased heat detection rates and reduced calving interval

Investing in a new parlour may be out of your business' reach or remit, but could an 'add on' make life easier either in or out of the parlour? Here we look at pedometers and how they're helping one Cheshire-based producer to manage his herd and improve fertility.

Installing two robotic milkers on Ali Dobson's Cheshire-based unit has helped him free up more time to concentrate on the day-to-day management of his 135-cow pedigree Holstein herd. And pedometers, which are linked to the robots, are certainly serving to boost heat detection rates and, therefore, overall herd fertility, as well as herd health and welfare.

Ali has had the robots since February 2007 and the pedometers were installed at the same time – they're part of the robots' ID system that recognises the cow when it enters the stall to be milked.

"I could have had neck collars or ear tags, but plumped for pedometers as they come with an extra management bonus. They can monitor cow activity levels and if a cow is more active, as they often are at and around bulling, then the robots' computerised system flags it up," he says.

Increased milk yields, larger herd sizes and a shortage of labour have all resulted in a slowly declining level of herd fertility throughout the UK. The UK's average calving interval has increased by approximately one day every year during the past decade – as a result, the average dairy herd is losing an estimated £5 per cow per day in reduced productivity and increased costs. And heat detection rates on many farms are often lower than 60%.

'Blind' heats
Pedometers, such as those that form part of Fullwood's Crysta-Heat system, can be used to monitor individual cow activity and behaviour to determine when a cow is in oestrus. And the company says that accurately predicting when a cow is in heat can improve first service to conception rates by as much as 10%. And that 'blind' heats can also be detected, resulting in lower semen use and costs, as well as reduced vet bills.

Ali, who runs the Crosslanes herd at Bickley, near Malpas, uses NMR's InterHerd software to manage his herd and the fertility data shows a considerable improvement since 2005/2006 and certainly since the system was installed.

Calving interval averaged 429 days back

Ali Dobson: "Pedometers help us to improve and maintain herd fertility"

in 2005/2006, improving to 410 day in 2007/2008, just after the pedometers were introduced. And for 2008/2009 the figure stands at 397 days – a reduction of 32 days overall, which represents a considerable cost saving.

"It's certainly a boost for fertility, which was one of the main reasons for culling cows in my herd. My herd replacement rate has also fallen from around 29% to a more respectable 26% and I expect that to come down even further as the calving interval drops," says Ali.

He decided to install the robots due to staff problems – good labour was proving hard to find.

Ali adds that the unit's 18:18 herringbone parlour was also due for replacement. "So it was do or die really. We're tenants here, but we still had to stump up the cash for the replacement parlour. And it had to be the right set up for our time-and-labour poor situation."

Better fertility
He expects the second-hand robots to last for between 10 and 15 years and so far he's thrilled with them, not least because they free up time that was otherwise spent in the parlour.

And better fertility should mean that there's more young stock to sell, if only due to the herd's lower culling rate.

Every cow in the herd wears a pedometer, except when they're dry,

Second-hand robots are used to milk the Crosslanes herd

and the device records the number of steps taken by each animal on a daily basis and this information is read and recorded by Fullwood's Crystal herd management software.

An increase of 80% or more steps compared to an individual cow's 10-day average activity indicates that a cow is in heat.

Ali checks the computer at least twice a day to see which cows are in heat so that they can be inseminated at the optimum time. And the system also allows Ali to pinpoint when best to inseminate each cow.

"The Crystal software package produces a series of graphs to illustrate cow activity levels: when a cow comes into heat a massive spike appears on the cow's activity graph, providing a very clear indication that she is in heat. I can't miss it," says Ali.

Very short
Ali uses DIY artificial insemination and as such, the pedometers are crucial in determining which cows are in heat and when they should be inseminated.

"The length of oestrus in some cows is very short – just three or four hours – and this system helps me to make sure I don't miss the window to successfully AI a cow.

"And the system also allows me to detect silent heats – I can identify cows that are in heat without physically witnessing them bulling. Since installing it we never miss a heat."

And other things are not 'missed' either. Sick cows, or rather those that are showing signs of becoming sick, are picked up much earlier.

"For me the system is like many others that I now have here at the unit. I wouldn't be without it, in fact it's probably more a case of 'couldn't' manage without it.

"And I'd recommend it to anyone – whatever their herd and parlour set up – who feels they could do better as far as heat detection and fertility are concerned.

"I'm thrilled with the results I've seen so far and it's making a huge difference to herd productivity and profitability. The investment has more than paid for itself and there are still more improvements in herd fertility to look forward to."

Rachael Porter

Pedometer records the number of steps

Fullwood's Crysta-Heat system can be used as a standalone heat detection system and can be retro-fitted to any make or type of milking parlour. Each cow wears a pedometer around the fetlock on one foreleg.

The pedometer records the number of steps being taken by an individual animal over a set period of time and relays this information, via a built-in transponder, to a computer every time the cow enters the parlour/robot.

Increased activity levels indicate which cows are in heat and the system also indicates potential health disorders, such as lameness, by logging reduced activity levels.