

Data capture and interpretation are key to herd improvements

Digging down into detail

Investment in a 'bells and whistles' milking parlour upgrade, to aid health, fertility and performance monitoring, has seen one Wiltshire-based herd improve not only milk yields, but also calving index, udder health and overall efficiency.

text **Ray Meadon**

Volatile cereal prices and constant milk-price pressure have made it imperative for Becci Berry, from Brimstone Farm near Swindon in Wiltshire, to closely analyse all aspects of her mixed business in order to cut costs and improve efficiencies.

At the same time, investments in the dairy enterprise's milking infrastructure and the adoption of a team approach to herd management have helped to make strides in fertility detection and mastitis control.

Becci farms a total of 365 hectares,

in a family partnership, where she runs a 180-cow dairy herd alongside the farm's arable enterprise. The herd is currently averaging 8,800 litres and is milked twice a day through the unit's 16:16 Fullwood parlour.

The 32-degree herringbone plant was originally installed in the 1970s, but has been updated at various stages, turning it from a receiver jar to direct-to-line plant. Fullwood's AugerMaster in-parlour feeders have also been added.

Subsequent plans to improve the layout and functionality of the milking facilities

were being drawn up when Becci's late husband, Richard, was diagnosed with cancer. Following his death in February 2011, Becci completed a number of the planned improvements with the help and guidance of local dairy engineers, MMT Services. The first of these projects was to install ACRs and cluster flushers. At the same time, both rump rails were moved by a couple of inches to accommodate larger cows, and improvements were made to the parlour building for easier cow flow at the parlour exit.

'Growing' herd: housing has also been altered to accommodate larger cows





Becci Berry: "Technology allows us to capture – and utilise – key data"

conversion efficiencies," Becci explains. "So we invested in a number of key technologies that would allow us, and the wider herd management team, to capture a number of key performance indicators.

"The pedometers act as an extra set of eyes and work in conjunction with the Afi-lite meters and Crystal software to flag up any unusually high activity levels and inform the milking operator where each cow is in her lactation. With that data easily to hand it is possible to make an educated assessment of the cow in question to determine if the high activity warrants any follow up treatment."

Invaluable asset

At the same time as the latest set of parlour updates, Becci also recruited a new herdsman, Mark Boylan. "Those couple of years were really difficult both personally and professionally," Becci continues. "But Mark proved to be an invaluable asset and has worked hard to ensure the herd is managed as effectively as possible. He uses Crystal in conjunction with the Afi-lite meters to monitor conductivity during each milking and uses a California Milk Test to confirm any suspected cases of mastitis and administers treatment before clinical symptoms set in.

"We're now getting half the number of chronic cases and hardly any repeat cases. As a result our average cell count has fallen from 300,000 cells/ml to 115,000 cells/ml and our vet bill has been more manageable."

The new technology also makes managing the cows less stressful and less time consuming. "We can alter a cow's feed profile and not worry about when it needs to be reset to a different level," Becci adds. "The system is fully computerised, easy for us to interrogate, and takes a lot of the guesswork out of the job. We are producing milk more efficiently as a result."

Becci and Mark, and the wider herd management team, are working hard to prevent mastitis, improving fertility and maximise production efficiencies.

Early warning

In order to achieve these goals, the unit is part of the Drove Veterinary Practice's Dairy Early Warning (DEW) Club.

Each month, Alex McPherson produces a detailed report based on 30 Key Performance Indicators (KPIs) to build an overview of cow health and performance. The report also highlights where the wider farm team can make improvements in order to reduce vet bills and improve herd performance.

Since joining the Dew Club in 2012, changes made by the team have resulted in some impressive improvements (see Table 1). For example, the percentage of cows pregnant after 100 days has risen from 27% to 50%, while the herd's calving index has fallen from 435 days to 396 days.

"We knew from an early stage that we needed to improve fertility levels," Becci explains. "And that's as much about the health, welfare and nutrition of the cows as it is about having the right equipment in place to detect heats through activity monitoring. It wasn't simply a case of fitting and forgetting the pedometers," she continues.

"To make a real difference we've had to look at the data in detail and work as a team to interpret what the information was telling us and to fine tune each cow's management parameters accordingly."

Part of the reason for installing the Crystal software was to enable different groups of cows to receive different feed rations.

"As well as allowing us to observe and analyse each cow's performance, it also lets us micro-manage the concentrate ration of any cows struggling to conceive," Becci says.

The herd is still NMR milk recorded once a month, because it helps to generate even more data from which the team can make key herd management decisions. They also keep a Bray board up-to-date in the farm office as it provides an easy and quick-to-view visual aid of the herd's daily fertility status.

"They're proven management tools so we see no reason to stop using them alongside the more modern systems. It all comes back to our philosophy of using and interpreting the data available to make more informed decisions on a day-to-day basis," says Becci. |

In 2012, more improvements were made, with the parlour's basic milk meters replaced with higher specification Afi-lite units, to give the operator full control of the milking process. The new meters not only record milk quantity, but also provide real-time electrical conductivity readings – an early indicator of mastitis – and allow the operator to access individual cow information during milking and to control pulsation for improved milk let-down stimulation.

The herd office was also updated, with the farm computer linked to the parlour and equipped with Fullwood's Crystal herd management software. The cows were also fitted with Fullwood activity monitoring pedometers, which double as individual animal identification tags.

Individual performance

"We had been milk recording, using NMR, once a month for a number of years. But wanted to get a clearer idea of how each individual cow was performing and remove some of the guesswork involved in measuring and managing the herd's overall yield, fertility and feed

Table 1: KPIs for Brimstone Farm in 2012 and 2015

Key Performance Indicator	2012	2015
percentage of cows pregnant after 100 day	27	50
calving first service interval (days)	84	60
calving index (days)	435	396
percentage of cows eligible for service actually served	39	70
percentage of cows eligible for service conceived	12	22
percentage of service intervals 18-24 days	23	44
percentage of service intervals >50 days	40	13