

Robots offer herd expansion opportunities

Many producers switch to robots for a reduced workload and increased milk yield. But what is the transition from a traditional parlour to robots like? Gareth Jones reports.

Steve Apperley, alongside his father Stuart and uncle Richard, milk 190 head of pedigree Holstein Friesians at Wood Lane Farm near Market Drayton, Shropshire. In 2023, Steve decided it was time for a change, prompted by his 12/24 swing-over parlour reaching its sell by date and a desire to reduce workload.

Together, the family started looking at introducing robots, and began by visiting farms and speaking to the dealerships in their area.

Guided system

The Apperleys identified a suitable cubicle building, which, with an extension, could accommodate three robots to milk the whole Baldry herd, which calves all year round. They looked at several manufacturers, but finally settled on DeLaval because they wanted a guided system, which helps manage cow flow by routing them from the cubicles to the robots and on to the feed passage.

The 3D camera feature helps with cluster attachment to the teats, rather than using a laser sensor. And the family also liked the local dealership Dairy-Scope's flexible approach and support. "We looked at free access systems," explains Steve. "But as we were trying to reduce our labour input, we didn't want to be collecting cows twice a day."

Chosen VMS features:

Ear tag identification
Milk quality: Quarter conductivity and blood detection
Mastitis detection programme.



Milking robots have brought benefits to Wood Lane Farm for Lochlann Bentley, Herdsman (L) and Steve Apperley

The existing building had a central feed passage which divides the building into groups, so it lent itself well to having a group of 60 heifers on one robot and the main herd of 120 cows on two machines. The family opted for three VMS300s, which they had up and running by April 2024.

Two robots for the main cow group were positioned in a toll booth layout, while for the heifer group, the single robot was placed parallel to the end of the building.

Milk first

Steve wanted an option for separation at the robots, allowing for a small high attention group - for example lame or freshly-calved cows - to have their own cubicles and footbath. "This is a milk first system," explains Steve. "Once the cows have been milked, we can then segregate any

animals that require attention before guiding them through the footbaths on certain days of the week.

"They then have access to the mixed ration before going back to the cubicles. We are also using a pre-selection gate before the robots, so that only cows with milking permission can enter the robot waiting area."

"We knew that rope scrapers would provide us with the simplest solution."

And the move to the robots has brought benefits. "The transition has been great," says Steve. "We have seen milk yields increase from 11,200 to 12,800 litres in the cows and from 7,500 to 9,500 litres in the heifers, and crucially, milk quality hasn't been compromised by more frequent milking.

"We have also reduced labour, as two of us can pretty much run the herd day-to-day (compared to three before), and we have flexibility in our day. On a weekend, we could actually manage with one person, which was never possible before."

To hold all the milk, Dairy-Scope also installed a 15,000-litre silo to give plenty of capacity for every other day milk collection. It works in conjunction with an 800-litre buffer

tank, so that milking can continue uninterrupted when the silo is being emptied and washed.

When it comes to yields, the main milking herd is averaging around 40kg/cow per day, while the heifers are averaging 32kg/day. They are fed for 28kg and 20kg, respectively, in the shed, before being fed to yield in the robots. The main ration is made up of 50/50 maize and grass silage, soda wheat, a concentrate blend and chopped straw.

Slurry options

For slurry management, Steve opted for rope scrapers. "We looked at various options, but as we had 16' wide passageways in our shed, combined with slatted channels, we knew that rope scrapers would provide us with the simplest solution," he says. "We don't get large waves of slurry building up when the scrapers run. However, we might look at automatic collectors in the future."

Thinking about the future, they also plan to expand the herd. "We are really pleased with our progress in such a short space of time, since converting to robotics," says Steve. "Our plan is to install some additional cubicles for the heifers, as we feel that we have had enough time on the system to push this group up to 70. In addition, we are keen to challenge the herd to eat more of the mixed ration and to reduce the level of concentrates in the robots. So it's really a case of fine tuning at this stage to maximise our efficiency."



The Apperleys chose three DeLaval VMS300 robots on a guided system