

The principles of Cow Signals is just as important, if not more so, with robotic milking systems. **Farmers Guardian** finds out more.

Cow Signals help to hone robotic system

Reading cow behaviour, posture and physical signs to identify problem areas in their surroundings or routine is a concept rising in popularity among dairy farmers. Known as the Cow Signals approach, the aims are to improve performance by assessing how closely a cow's need for food, water, air, light, rest and space are being met.

While many advisers are trained in parlour-based systems, David Wilde, ruminant products manager at Massey Feeds is the UK's first robot-specific Cow Signals trainer.

He says: "It may be stating the obvious, but for robots to work as effectively as possible, cows must want, and be able, to get to them without hindrance.

"Cows are left to their own devices and receive less human intervention when milked through a parlour. This means anything which stops them using the robots and exhibiting appropriate behaviours can be significant."

Putting robots in the wrong location is a common problem. Cows need safe and easy access and must have adequate escape routes for timid or lower-status cows, says Mr Wilde.

"It is not advisable to put the robot at the end of a shed and hope it will be effectively used. How often do you see a disparity in the visit frequency between two robots in a building? This is almost always a result of disrupted cow behaviour, and the key is to find out why cows are favouring one robot over another.

Reduce problems

"By taking the time to carry out a Cow Signals audit you can help identify bottle-necks and so reduce the issues, often quite cheaply, and in so doing increase total production and performance per robot."

Ben Hartley, who farms with his parents John and Sarah at Mason House Farm, near Clitheroe, Lancashire, he is currently milking about 150 cows on a robotic

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DAVID WILDE

system and was keen to see how he could improve the unit to increase output per robot.

Mr Wilde carried out an audit of the farm with Mr Hartley and their vet Matt Hylands, from Lambert, Leonard and May.

The main cow housing has been extended over time to accommodate the increased herd size.



Cows have good access to the robots at Manor House Farm, with visit numbers reflecting this.

Milking cows do not graze but are fed a diet based on grass silage, chopped straw and wholecrop. Concentrates are fed through the robots and three out-of-parlour feeders. Fresh calvers are also fed a liquid supplement through the robots to help reduce early lactation negative energy balance.

Walking through the herd, Mr Wilde stresses the importance of cow flow within robot systems.

"To work well cows need good access and must not feel intimidated. Having more than one route to the robot is crucial, not just one pathway, and there are three at Mason House Farm. Cows must also feel confident on their feet and not be afraid of slipping. At nearly 34kg per cow and an average of more than three visits per day, it is clear many things are right on this unit.

"Ben's robots are generally well sited, reflected in the number of visits. However, one access way is quite narrow and would allow a dominant cow to stop others reaching the robots. Removing two 'spare' cubicles at the end of the run would increase the width and make it easier for cows to enter the robot.

"Like many problems identified with Cow Signals, things can be quickly and easily rectified with an angle grinder and a lump hammer."

Mr Wilde says feeding is a critical aspect of managing cows on robotic systems.

"Ben is feeding for maintenance plus 8kg down the feed fence and has plenty of access so cows have ample opportunity to eat. It is important to make sure cows have good access to out-of-parlour feeders, but they also need to want to visit the robot to eat."

Mr Wilde suggests separating the out-of-parlour feeders, which are currently sited in one block, and moving one to the top end of the building.

"Current access is quite tight and having feeders in two different locations can help timid cows."

One key benefit of robotic systems is the ability to segregate cows, says Mr Wilde, and here he believes some improvements could be made at Mason House Farm.

Segregation

Fresh-calved cows are kept in a separate cubicle area for the first two weeks post-calving and the segregation process works well. Due-to-calve heifers are also in this group, allowing them to acclimatise to the system.

Mr Wilde believes more use could be made of auto-segregation for routine visits by the vet.

He says: "The current system of separating cows relies on moving numerous gates and sorting cows manually. They are then away from food and the ability to be milked.

"It would be better if cows could be segregated automatically into

Farm facts

- 138 hectares (320 acres) mainly down to grass, with some winter cereals grown for wholecrop
- 151 pedigree Holsteins averaging 33.8kg milk sold per cow per day
- All-year-round calving.
- Three Lely A3 robots, with plans to install a fourth robot and increase to 200 cows
- Average of 3.1 visits per day, with heifers at 2.8
- Operating costs are about 0.5 pence per milking on a master contact
- Producing 5,100kg milk sold per day

an area where they can still eat and get access back to the robot. Th cows can behave normally, even if the vet is delayed."

Mr Hartley is pleased with the audit results. He says: "As our system has evolved, it is nice to know there are no major problems! David pointed out some general points regarding airflow and cubicle size which came as no surprise given how the building has been expanded.

"The points about cow flow can be sorted quite cheaply and should help push up output per robot while making better use of auto segregation should be good for the cows, the vet and us."



Left to right: Lambert, Leonard and May vet Matt Hylands, David Wilde, of Massey Feeds, and Ben Hartley.