

The latest technology that's keeping passageways – and cows – slurry free

# New 'brooms' sweep clean

Keeping cows clean and disease free starts with clean housing. But with huge time pressures on many units this is often more challenging than it sounds and mechanisation is often the answer.

So how are the latest labour-saving scraper devices coping with the rigours of UK units?

text Rachael Porter

Scraping yards and passageways is essential to keep cow housing, and more importantly cows, clean and disease free. But it doesn't have to be labour-intensive or an area where staff 'could do better' if only they had more time. The latest technology can take care of it – even for continually housed cows on slatted systems.

Take one Windsor-based pedigree Jersey herd. A slat-cleaning robot has been scraping the cow house passageways here for the past 12 months and herdsman Andrew Buckland says it's been one of the most valuable additions to the newly revamped dairy unit.

"The cows are milked by robot so they stay in the cow house during the winter and moving them around the shed so we could get in and out with a tractor and scraper to clean the passageways would have been impractical, not to mention time consuming," he says. "And we'd never have been able to achieve these levels of cleanliness, not even if we'd have gone in four or five times a day."

## Pre-programmed route

The Dutch designed and manufactured JOZ-tech robot scrapes the passageways 10 times a day or more, following a pre-programmed route around the cow house before returning to its 'hub' to recharge its battery. And Andrew says that there's nowhere in the cow house that it can't go: "It cleans every corner and it's very quiet – the cows don't even seem to notice that it's there. They go about their daily business and the robot gets on with its job."

The result is a stress-free environment and what Andrew describes as a supremely clean shed. "And this

means clean feet and udders and clean cows. We've certainly seen an improvement in hoof and udder health since we moved to the new system," says Andrew.

He first saw the robot in operation on Dutch dairy units, during a fact-finding trip to the Netherlands, with Fullwood, to look at milking robots. And the price of the standard robot is around £13,200, plus delivery and installation.

## Dry slats difficult to clean

"Deciding to invest in one was an easy decision to make. What other options did we really have if we wanted to have a house that was as clean as those we saw in the Netherlands?"

Andrew also believes that it's the most robust model on the market: "Once you've seen it in operation, you can't really find fault with it."

"It has no moving parts, so there's very little to breakdown. So far it's been extremely reliable and I really can't see how the design could be improved."

It travels slowly – about four metres per minute – and transponder points driven into the slats ensure that it doesn't get lost in the shed. "And it hasn't done that once since we've had it."

The only possible problem is if an excessive amount of silage spills onto the slats in the feed passage. "It could get stuck there, but it's not been a problem for us."

Dry slats in the summer may also prove difficult to clean, so a water spraying system is now available as an option on the robot. The robot comes with two 80-litre water tanks and nozzles on its front and rear. "When the robot returns to the charging station it automatically connects to the water supply to refill,"

*Clean cows: the result of clean passageways that are scraped by the JOZ-tech robot*

says JOZ-tech's Sjaak Bronkhorst. "It's the ideal system to make dry floors wet, or to disinfect the floor after scraping."

"But we're extremely happy with the model that we've got and if anyone is thinking of investing in a robot to clean their slatted passageways, then I'd recommend this one."

## Cleaner cows

Taunton-based producer James Read is also a huge robot fan. He has a Lely Discovery mobile barn cleaner. And his 155-cow herd is also milked by robots in a 186-place cubicle house with slatted

passageways. "But the robot could easily cope with a shed twice this size," he says.

The robot has been at the unit for the past year, cleaning the slats every hour. And it's a very clever piece of kit, according to James. "I was the first produce in the country to install one and it was really easy to programme and set up – I just read the instruction leaflet."

He first saw the Discovery in action on a trip to the Netherlands, again when he was looking for information about milking robots. "And I was impressed

by how clean the cow house was." "It's also cheap to run and has very few moving parts. The tyres and battery will need replacing after a few years. And the scraper blade itself is good for a year.

Most producers who have them – and there are quite a few in Northern Ireland and the south west of England where slatted housing is more popular – simply turn the blade around and use it for another year before replacing it," says Lely's Andy Stewart.

The fitted system costs £10,500 plus VAT and James Read says it was money well spent. "My cows are cleaner than they've







*Maintenance free: no chain means fewer breakdowns*



*Clean concrete: scraper is designed for solid passageways*

ever been and I'm already recouping some of the cost because cleaner feet and udders means fewer hoof health issues and cases of mastitis. And my cell counts have also fallen."

### Simple design

An automatic scraper for solid passageways that boasts fewer working parts than its chain-driven counterparts is working hard on Mark Houseman's Harrogate-based unit.

He was looking for something more reliable and trouble-free to keep his new 240-cow cubicle building clean and was drawn to the Spinder manure scraper due to its 'low maintenance' promise.

"I particularly like it because it doesn't have any chains – it works using an 8mm polyethylene rope. Chains are prone to wear and tear and they stretch when you adjust them, and will eventually snap. I've worked with chain-driven scrapers and they require quite a lot of maintenance."

He's impressed by the simplicity of this scraper's design and by how quiet it is. "It's also safe for the cows – there's no chain for them to catch their feet on and if a cow is lying in the passageway then the scraper will stop. The control panel detects a surge in the load on the scraper and shuts off the motor."

The scraper will then try again after three minutes and after a total of five attempts the scraper will give up and start again at the next scraping cycle.

Mark has two systems in his cow house scraping every two hours. And he says they are very effective at keeping the passageways clean.

"There's also a frost protection setting that's proved to be really useful this past winter. The previous chain scrapers would prove to be a real headache during a cold snap. But this system kicks in at  $-5^{\circ}\text{C}$  and we saw temperatures as low as  $-15^{\circ}\text{C}$ , but the system didn't freeze up once. We've had no problems at all." |

*Robot route: the Lely Discovery cleaner finds its own way around the cow house*

