Can one machine be more financially viable than three?

All-in-one feeding revolution

After a prolonged winter, with many herds fed TMR rations well into April, machinery has been put well and truly through it's paces during the past six months. Could it be time for an upgrade?

text **Rachael Porter**

A self-propelled feeder wagon would, without doubt, have made life a little easier for some producers during the past few months. And, contrary to popular belief, just such a piece of kit could be financially viable for many producers – reducing feeding time and costs, as well as improving ration consistency and accuracy, and reducing feed waste.

So says Opico's James Woolway. His company has just held a series of farm open days to showcase the Strautmann self-propelled feeders that it now supplies to UK producers.

"Like a lot of new tech, producers worry about reliability and cost. The question they usually ask is 'what if it goes wrong at 4.30 in the morning'? I think we have both bases covered now," he says. "Reliability is good because that's what producers need and expect. We also offer a service package. If a machine is serviced regularly then potential breakdowns should be avoided – just like any machine or vehicle."

Capital outlay

A self-propelled machine requires a similar captial outlay to a more conventional tractor/loader/mixerwagon combination. "As dairy units have expanded and continue to grow, livestock and feed storage may be some distance apart. Some loaders and tractors are travelling great distances to fill mixer wagons and feed cows and young stock. This all takes time and fuel and that also needs to be considered," he says.

Labour – or rather the shortage of it – could be the clincher for many producers. "It's certainly not just about herd size. Using a self-propelled feeder will speed up feeding – some producers are saving two hours a day. That's time that can be spent on other areas of husbandry and the dairy business."

He says that herds larger than 350 cows should certainly give a self-propelled feeder serious consideration. "Unless your system and set up is already fantastically organised, it's likely that opting for a self-propelled machine could stack up."

Sussex-based producer Matt Ford bought his first self-propelled diet feeder in 2003 and he's not looked back since. His interest was sparked when he saw a machine in action during a trip to Europe. "I saw how easily it did everything – filling, weighing, mixing, transporting and feeding out – without the need for several different pieces of kit.

"I came home and did some sums, and the figures stacked up – helped by the fact that we feed 1,000 head of cattle each day. It's a big job, so investing in some big kit to do it was easier to justify – particularly when you consider the other nutritional, feed efficiency and cost-saving benefits," he says.

Matt recently replaced his feeder, which mixes and delivers the ration for the unit's 600 milkers and 400 followers, and this time he bought a tub mixing model with an integral straw chopper.

"Straw is ground by the mixer, so that's one less machine we need on farm. Without it we'd need a straw chopper and it would be yet another job to do when adding ingredients to the mixer."

His current model is a four-year-old Sgariboldi. "For us, the machine simply has to do what we need it to do."

Four-wheel steering is a must: "Particularly when feeding our young stock because space is a little tighter in their housing. We can get in and out easily and there's also a reversing camera on the model we have now."

Matt also insisted on a hardened mixing tub this time: "So that it didn't wear too quickly. We are feeding a lot of cattle here, compared to some dairy units."

Reducing waste

Matt likes the accuracy of feeding, which not only helps to eliminate feed waste – particularly at the silage clamp face – but also ensures that a consistent ration, both in terms of nutritional value and particle size, is put in front of the cows.

"Reducing waste saves money and optimises feed costs and efficiency. And a consistent ration is good for the rumen. A balanced pH increases feed conversion efficiency, but also avoids any digestive upset or 'stress' that can have an impact on milk yield, cow health and fertility."

Reliability is also obviously important. Matt says, like any machine, there are breakdowns. "

And that's the only downside. If this kit breaks then it's a big problem. If a tractor pulling a mixer wagon breaks down, you can hitch up another tractor."

Michael Smith, who farms near Haverford West in Pembrokeshire, has used a self-propelled machine to mix and feed a TMR to his 420 milkers and 300 young stock since December 2017. And for him the decision to switch from a tractor-driven wagon was very much about the machinery. "We were changing our telehandler and tractor every three years. When you take a step back you can see that it's taking three pieces of kit to do one job.

James Woolway: "If a machine is serviced regularly, breakdowns should be avoided"

"The tractor was hitched to the feeder wagon pretty much all year round. And the telehandler's work life was also dominated by feeding. A tractor, feeder wagon and telehandler require a smiliar outlay to a self-propelled machine that does it all."

Michael then looked at accuracy. "We were feeding a ration that was within 1% of what it was on paper – precision was good. And we wanted to maintain that and reduce waste."

The self-propelled machine he was looking at – a Trioliet – has a block-cutter on a telescopic boom at the front that takes silage direct from the silage clamp face. "It just takes what's needed and, if it does take too much, it puts it back. And it can reach high up too, so it doesn't create an over hand – which is not only wasteful but could also be dangerous."

Since making the switch feeding time has fallen by an hour to just two hours and 10 minutes: "And that includes young stock on another farm, which is 1.5 miles away."

Fuel efficiency

Michael's also pleased with fuel efficiency. "Our self-propelled feeder uses 12.5 litres of diesel per hour. A tractor/feeder wagon set up would use between 18 and 20 litres per hour. Over 10,000 hours – which is the expected life span of such a machine – that's a fuel cost saving of around £50,000."

He says that he's happy with the ration too. "It's consistent – just as precise as the one we were feeding through the mixer wagon. The whole TMR is ready in a few rotations – not 20 – so it's more efficient. There's less wear and tear on the machine and the ration isn't over mixed."

An added bonus is what he describes as an immaculate silage face. "That's always a pleasure to see – we know that there's minimal waste." |

Feed-pushing frequency drives intakes and milk yields

Push-up exercise

Pushing up feed, several times a day, is vital to maximise dry matter intakes and milk yields, and reduce feed waste. But it's also an area of dairy management where some producer could do better. And could an automatic system be the answer?

text **Rachael Porter**

Dave Turner: "It's a job that's often overlooked, particularly during busy periods"

How many times a day do you push up feed? And is it often enough? Two key questions that any nutritionist worth their salt should be asking their dairy clients – particularly if the dry matter intakes and cow performance seen on paper are not being seen at the feed fence and in the bulk tank.

"The truth is that many producers don't push feed up often enough or at regular intervals. They may do a sterling job in the day, but they're not going to get up at 2.00am to push feed," says Stamford Agricultural Service's Dave Turner. "Some will also admit that during busy periods, such as silaging, it's a job that's often overlooked. Yet ensuring that cows can reach the feed – at all times – is the final piece of the nutrition/performance puzzle."

Neglected job

A lot of time and effort is spent on sourcing and growing ration ingredients, formulating a balanced ration, checking its consistency and mix quality, and feeding it out. If the cows can't actually reach it, then that work is compromised. Yet he says that some producers tell him that they only push feed up three times a day: "And many admit that it's a job that gets neglected during busy periods." Time and labour are becoming

Moov it: the Joz robot pushes up feed for Neil Evans' herd 12 times a day

Job done: more than 200 Juno systems have been installed on dairy units

Bas van Santen: "The payback period could be just over a year"

increasingly tight on many units. With that in mind – and the additional dry matter intake and milk yield potential that can be realised with regular feed pushing – Mr Turner says that installing a robotic feed pusher is a 'no brainer'.

"Our first UK customer, who by his own admission was already fanatical about pushing up feed, still saw an extra litre of milk per cow per day from his herd after installing a feed pusher. Imagine the possibilities if you already know that feed pushing leaves a lot to be desired on your unit."

More milk

Shropshire-based producer Neil Evans installed the Joz Moov feed pusher on his unit, near Bronington, in December 2017. He's pleased with the results he's seen in his 180-cow herd.

Averaging 10,000 litres, the cow are grazed during the day in the summer and housed at night – where they are buffer fed on a TMR that comprises grass and maize silages, a protein blend and crimped barley.

"Because so much effort goes into the formulating the cow ration and feeding the cows, I am really obsessive about pushing up feed. Before we installed the robot feed pusher, I'd do it at least six times a day," he says.

"I don't live on the unit, so I'd often come back to the farm after an evening out and push up feed, while the taxi waited! I'd also make a point of pushing up feed every evening at about 10pm."

The Moov now pushes feed twice as often – 12 times a day. The robot requires a five-hour charge window, and Neil has set this for between 4:30am and 9:30am.

"For me, installing this automated system is about driving intakes. It stimulates the cows to eat more. I only feed the herd once a day and this offers an efficient solution to keeping feed in front of them at all times."

Neil used to push up just before and after milking. And his relief milker says that he saves 30 minutes every day through not having to push feed up.

"Cows are more settled and although additional dry matter intake is marginal, they are producing an extra one litre of milk per cow per day."

Installing the system also means that the farm's telehandler can work elsewhere. "It's available for other tasks and pushing up is not neglected when we are busy with other things."

Reduced waste

Mr Turner says that there are other additional benefits, such as reduced feed waste. "Neil says that when he goes to feed up each day that the cows have cleaned up – there's none of the previous day's ration to sweep up. And this also saves on labour."

And there are health and fertility benefits to ensuring that cows achieve the dry matter intakes they require to minimise the negative energy balance in early lactation and to maintain body condition score, as well as producing good milk yields.

In terms of return on investment, Mr Turner says that a payback period of two years is quoted, but he feels it could be shorter. "That's based on a 200-cow herd producing an extra litre of milk per cow per day at 26ppl. It's not taking into account the saving on labour and feed waste. Or any improvements in health, fertility and longevity.

Lely's UK farm management support manager Bas van Santen agrees that producers should see a quick return on their investment.

Third-generation model

The company has just launched the third-generation model of it's robotic feed pusher – Juno, which will be available in the UK from August. "It's easy to install the system in a variety of farm buildings and set ups. And it can travel from shed to shed, and open and close gates and doors. So it's also capable of pushing feed in several livestock houses across the unit," he says.

He adds that increasing feed-pushing frequency stimulates feed consumption – up to 2.8% more in some herds. "In situations where feed-fence space is limited, frequent pushing can reduce stress and aggression by ensuring feed is always within reach for every cow.

As well as reducing labour costs, automatic feeding also reduces fuel costs. "Electric motors make automatic systems cheaper to run that diesel-powered tractors and feed pushers.

Mr van Santen says that he expects that producers could, potentially, see payback in just over one year. "It will depend on herd size and yield increase. But additional milk production alone will pay for the robotic system. Savings on reduced labour and fuel costs and less feed waste will also significantly shorten the payback period.

"The system also offers peace of mind – producers can get on with their daily work without having to stop – several times a day – to go push feed. It's taken care of and it's being done regularly."

He says that feed should be pushed up between 10 and 12 times during a 24-hour period. "That's something that automatic pushers can take care of." |

We take a look at the latest dairy kit to hit the UK market

Time for an upgrade?

These products have all been improved and relaunched in the UK and they claim to offer greater ease of use – for both livestock and producers – as well as more durability.

text **Rachael Porter**

① Cow brush has start-function upgrade

Energy savings and greater cow comfort are on offer following an upgrade of a popular cow brush. A small brush rotation, rather than a more forceful push, will now start the SCHURR cow brush.

This simplifies operation and, according to the company, allows cows – of all sizes – to express their natural 'scratch' behaviour. They no longer need to lift the brush to trigger the motor, they just need to rub against one of the model's two brushes to start the motor that rotates them. The cow brushes, made from 100% nylon for durability, no longer need to be pressed forcefully by the cow to start the motor and the company adds that this means no more broken switches.

All SCHURR C12 cow brushes are fitted with an energy saving motor as standard. The EC motor is used since 2012, is proven thousands of times, saving up to £175 in electricity costs each year – that's 35% less energy compared to other models.

One brush is enough for 120 milkers. Contact your local SCHURR dealer for more information.

② Group hutch with rear bedding door

A group hutch for calves with a rear bedding door has been launched by Intershape. The Calf-Tel MultiMax's door is easy to handle with large, sturdy plastic catches, and this, according to the company, makes bedding up easier, faster and more efficient.

The bedding door now comes as standard on all new hutches, and can be retro-fitted to older hutches. The hutches are designed for housing groups of four or five calves, from weaning until they are four or five months old.

They minimise disease and maximise growth by combining a draught-free, low-humidity, moderate temperature shelter with the benefits of outdoor living. This new development means that all the hutches in the company's calf hutch range – for single, twin and group rearing – now have rear bedding doors.

The hutches are an immediate, flexible option for calf housing. No planning permission is required, they are easy to move, and they often last for more than 20 years and have a very high second-hand value.

For more information visit: www.intershape.com

③ Next-generation robot sets the standard

A leading automatic milking system manufacturer has launched its next generation robot. The Lely Astronaut A5 combines proven automatic milking principles with reliability, ease of use and cost efficiency. And it offers stress-free milking for both producers and their cows, according to the company.

Cow comfort has been optimised with the development and introduction of a hybrid robotic arm, which Lely says is silent, faster, energy efficient and more accurate. This results in consistent milking. The arm follows the cow's every movement during milking and remains close to the udder, quickly correcting itself if there are any unexpected movements. This ensures a fast and thorough process, even when milking heifers.

The A5 also has a new teat detection system (TDS), offering improved post-milking teat spraying. The machine's user interface has also been redesigned, making automatic milking easier. All information is available to view on a single page.

For information about the A5's other new and improved features, visit: www.lely.com