

cowmanagement SPECIAL

MILKING EQUIPMENT

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Gain significant herd health and welfare benefits from a modest investment.

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We look at the latest parlour cleaning research and equipment.



Milking – and colostrum feeding – **made easy**

Ensuring that new-born calves are fed adequate colostrum is all the more difficult when they're born overnight. And the same can be said for milking sick cows that are unsteady on their feet. So isn't it about time you invested in a portable milking machine? We spoke to a vet to find out more.

TEXT RACHAEL PORTER



It's not always easy to milk freshly calved or sick cows – or feed new-born calves quality colostrum in a timely fashion. Time of day, proximity to the milking parlour and, indeed, the condition of the cow are all factors that can delay, if not prevent, milking. But investing in a portable milking machine could see all that change, as well as improving cow and calf health and welfare. “Ensuring that the new-born calf is fed plenty of good quality colostrum within six hours of birth is vital to protecting it from disease,” says Melton Mowbray-based vet Max Hardy, from Farm Veterinary Solutions. “Producers know this – it's been impressed on them and their vets for decades – yet still it's not always done correctly. At least 10% of bodyweight in litres of good-quality colostrum must be fed to new-born calves within six hours,” he stresses.

One ‘obstacle’ to this actually happening can be time of birth. “Calves born at 2am may not, realistically, receive their first colostrum feed until much later that morning and certainly not within six hours.”

Colostrum feeding

“The producer isn't going to fire-up the milking parlour for one cow. She'll be milked with the others, during the morning milking, and only then will the calf receive colostrum from its dam. Some producers may thaw and warm frozen colostrum and feed this in the early hours. But careful thawing is time consuming and strict Johne's testing must be in place,” Mr Hardy says.

“And this is where a portable milker – for one or two cows – can benefit both the cow and the calf.” The cow can remain in the maternity wing and avoid the stress of being milked through the parlour so soon after calving. And by milking her she'll be more comfortable and her udder will be relieved of immunoglobulin-rich colostrum.

Also, the calf benefits from having colostrum from its own dam, again without huge upheaval, and almost immediately after birth. There's no waiting around. So, if producers can see the benefits to investing upwards of £950 in a portable milker, what should they look for? Something that's easy to transport and clean and, of course, to operate. And it also has to be reliable. But what else?

“Portable milkers tend to be used when an animal is in a stressful situation so the key is to keep further stress to a minimum by ‘mimicking’ the liners and pulsation to what the animal is used to in the milking parlour,” says Dairy Spares' Tim Evanson. He adds that his company can customise its portable milkers so they ‘match’ the parlour system on each farm. Producers can opt for a portable milker with single or twin clusters and single and twin 30 or 40-litre buckets. Prices range from £950 for a single milker to £1,450 for a twin-bucket system.

Mr Evanson says that a machine that's built to last is also key for many of their customers. “Once they've invested, producers will keep their portable milkers for a long time. So longevity is key.

His company's portable milkers have hot-dip



Tim Evanson:

“It's vital that the milker is cleaned thoroughly after use”

galvanised frames to help maximise their durability. Two types of machine are available – oil and dry run. Oil-run machines use oil to lubricate the vacuum pump. Dry run ones use graphite vanes to coat the barrel of the pump. Many producers will already have pump oil, so they will probably go for oil-run. “It's important to keep this topped up and milkers should also be run at least every other day, particularly dry run machines,” says Mr Evanson. “So get into a routine. Or have a timer switch installed to turn it on automatically for a minute, when it is safe and someone is around.”

Portable milkers come with electric, petrol or diesel-powered motors. “Ours all come with electric, as they're much quieter and less disturbing for the cow and calf. If there is no mains socket nearby to run the machine, investing in a small portable quiet-run electric generator is one solution and this will also have other on-farm uses.” He supplies machines that are ready assembled and tested prior to dispatch: “So producers can just ‘plug and play’. It's vital that the milker is cleaned thoroughly and stored in a dry environment after every use,” he adds.

The liners also need to be changed at least once a year, depending on frequency of use. “And when the engineer comes to service the milking parlour, get them to service the portable milker too. Look after it and it will look after you – and your herd.”

Regular maintenance

Mr Hardy also stresses that, like any gadget used to ‘solve’ a problem, it's not a silver bullet. “Portable milkers are great – I'd like to see more of my dairy producer clients invest in one. But I'd also impress on them the importance of following strict calving and calf-rearing protocols and part of this will be to keep the portable milker scrupulously clean.

“It must be cleaned thoroughly and carefully immediately after use. The time saving element will soon be lost if it has to be washed and sterilised at, say, 2am after a long and difficult calving. “If it's not clean then it could actually pose a risk to the calf and put the cow at greater risk of picking up mastitis post calving. With a cleaning and maintenance protocol in place, portable milkers really can be a boon to cow and calf health and welfare.” |

Save time and money

A unique cluster was launched at UK Dairy Day and some revealing data highlighted that there could be efficiencies to be gained – and costs to be saved – by reviewing parlour cleaning routines.

1 Cluster speeds up milking times

The first milking cluster in the world to utilise a cartridge, instead of a liner, has been launched by DeLaval. The Evanza cluster and cartridge comprises a claw with an easy, quick-connection between claw and teat-cup. And the company says that it will offer significant benefits in terms of improvements in performance, cow welfare, service, ergonomics and reliability. Units where the milking cluster and cartridge have been tested saw an increase in milk flow of up to 9.3% and a 7% reduction in milking time, compared to conventional clusters with liners. Teat condition scores also improved in the trial herds and parlour service times were reduced by 50%.

Cartridge change times are three times quicker than a conventional liner change, according to the company. The cluster will officially go on sale in the UK in October.

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2 Review cleaning routine and save money

Data has revealed that inefficient parlour wash routines could be costing the industry up to £3 million per year.

Analysing figures from a Deosan-designed app, which has been used to study cleaning efficiencies on a representational range of dairy unit throughout the UK, there were two significant findings:

- Water heating, on average, accounted for £3,250 of expenditure per year yet, due to inefficient release and uptake into the parlour, 20% of the expenditure was never realised due to temperature drop.
- Chemical consumption was 10% above the required levels for circulation cleaning. This equates to around £300 in additional cost per unit each year.

“The overuse of chemicals and inefficient water temperatures aside, there is also the cost of accelerated deterioration to equipment and milk liners,” says Deosan’s David Horton.

“Clearly some major improvements can be made, and the good news is that they can be made quickly and simply,” he adds. An effective wash cycle can be split into four equal areas – all of which work in harmony for a successful clean. These factors, which should be given equal

attention to ensure hygiene investment is cost effective, are: temperature, contact time of the chemical to clean, correct chemical dosage, and mechanical action. “An efficient parlour wash is essential to ensure milk soil and bacteria are removed,” stressed Mr Horton.

“Aiming for water leaving the boiler at between 77°C and 82°C should deliver a good temperature profile across the whole wash cycle.

The data showed that, on average, 18°C was lost between extraction of the hot water from the heater to the start of the wash. “Some simple modifications to the water heater outlet, or the parlour intake arrangement, can be made at minimal cost. If maintaining higher temperatures is difficult, look for chemical options that work at lower temperatures.”

Mr Horton adds that it is important to be careful with chemical dosage: “The data shows that 54% of units introduced a chemical to the final rinse at a higher rate than required.

“So routinely check how much chemical is used to ensure over-dosing is avoided. This can lead to milk fat and scale deposition, biofilm formation, bacterial growth, equipment deterioration, teat damage and, ultimately, income loss.”

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