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Milk Manager NEWS

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Milk Manager NEWS

Milk Market Update

UK Wholesale Dairy Commodity Market

- Fonterra's latest on-line GDT auction (7th May) resulted in a 1.8% increase in the weighted average price across all products, reaching US $3,708/t. This was the third consecutive rise in the GDT price index, although the previous auction only returned a 0.1% rise. Cheddar showed the biggest increase, up 8% to $4,257/t, followed by whole milk powder (+2.4% to $3,350/t). Out of the eight products on offer, only lactose fell in price from the previous auction. Full results are available at https://www.globaldairytrade.info/en/product-results/

- Similar to the previous month, there was little movement in domestic wholesale commodity prices, with markets subdued and little buying activity. Buyers are pretty well covered in the short-term and have been anticipating prices to drop as the seasonal increase in milk production picks up. On the other hand, sellers are not keen to drop their prices until there is a clearer picture of what future milk supplies will be like.

Commodity	Apr 2024 £/t	Mar 2024 £/t	% Difference Monthly	Apr 2023 £/t	% Diff 2024-2023
Bulk Cream	2,037	2,045	0	1,518	+34
Butter	4,910	4,850	+1	3,920	+25
SMP	2,000	2,040	-2	2,020	-1
Mild Cheddar	3,470	3,490	-1	3,550	-2

Source: AHDB Dairy - based on trade agreed from w/b 18th Mar - 15th Apr 2024. Note prices for butter, SMP and mild cheddar are indicative of values achieved over the reporting period for spot trade (excludes contracted prices and forward sales). Bulk cream price is a weighted average price based on agreed spot trade and volumes traded.

- Only butter showed a positive price movement, with butter stocks thought to be tight from reduced production on the back of little growth in milk volumes. In addition, the significant decline in Irish milk production is also affecting the market.

- The slight drop in mild cheddar comes off the back of little buying activity and relatively weak demand being reported by some processors. Price is also thought to have come under pressure from imported product from New Zealand.

- Both market indicators fell slightly into April, with AMPE down 0.48ppl from the previous month and MCVE down 0.71ppl. The drop in AMPE was due to the fall in the SMP component and the drop in mild cheddar and whey powder affecting the MCVE price. The Milk Market Value (MMV) for April was 35.68ppl, down 0.67ppl from March and the third consecutive monthly decline.

	Apr 2024 ppl	Mar 2024 ppl	Apr 2023 ppl	Net amount less 2.4ppl average haulage - Apr 2024 ppl
AMPE	36.14	36.62	31.81	33.74
MCVE	35.57	36.28	37.56	33.17

Source: AHDB Dairy

- Defra put the UK average farm-gate milk price at 37.42ppl for March, 0.57ppl less than the February price and in line with the recent movements in MMV and AMPE. The UK volume for March was 1,322 mlitres, which was 12% more than the previous month but the same as the March 2023 volume.

- According to The Dairy Group, the estimated cost of production for the 2023/24 milk year was around 42ppl. While feed prices fell, they were offset by higher fixed costs. In comparison, the weighted rolling farm-gate milk price averaged just 37.3ppl. Going forward, fixed costs will keep rising (due to inflation at 3-4%), along with higher feed costs as the wet weather will impact on next winter's feed prices. Their forecast for milk price is little change, with the Defra farm-gate milk price to firm marginally to around 38ppl by July, increasing slightly to nearly 39ppl by September. With no sign of production costs easing, current milk prices are not sustainable in the long-term.

GB Milk Deliveries and Global Production

- For the week ending 27th April, milk deliveries were 0.8% up on the previous week with a daily average of 36.10 mlitres/day. However, deliveries were 2.3% down on the same week last year, equivalent to 850,000 litres less per day. Cold wet conditions throughout April have limited grazing opportunities but the warmer weather at the start of May will see grass growth rates increase significantly and boost milk production, although it is unlikely to come close to the peak of 36.79 mlitres/day seen in May 2023.

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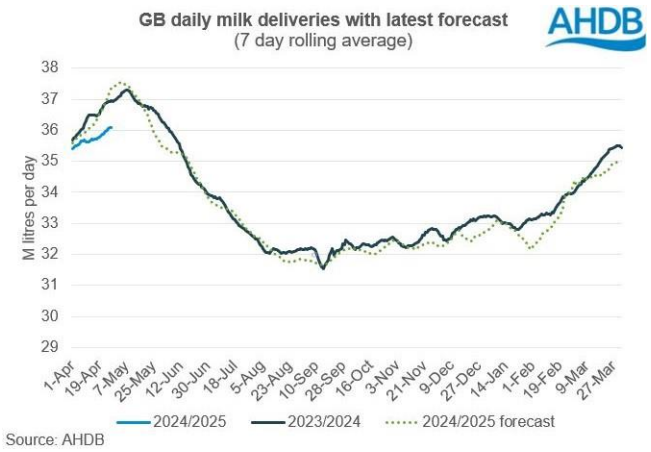

- Global milk deliveries for February showed a mixed picture across the main milk producing regions (see following table). Daily deliveries were 813 mlitres, down 0.7% (5.5 mlitres/day less) compared to February 2023.

Region	Feb 24 volume (mlitres/ day)	% change from Feb 23	Change (mlitres/ day Feb 24 vs Feb 23)
US	274.4	-0.8	-2.4
EU	387.2	0	+0.1
UK	40.9	-0.6	-0.2
Argentina	23.6	-17.8	-5.1
Australia	20.8	+5.0	+1.0
New Zealand	64.1	+1.9	+1.2

Source: AHDB Dairy

- In the EU, Irish milk volumes declined by 13.3% and Germany showed the biggest increase in volume, up 81 mlitres (3.3%) for February compared to the same month in 2023. US milk volumes have dropped on the back of a reduction in size of the national herd from heavy culling. The huge reduction in Argentinian milk has been due to heat stress conditions (both very high temperatures and humidity levels), as well as the financial crisis and triple digit inflation. In March 2024, their inflation rate increased to 287.9% from 277.1% in February 2024.

Monthly Price Movements for May 2024

Commodity Produced	Company Contract	Price Change from Apr 2024	Standard Litre Price May 2024
Liquid & Cheese	**Arla Farmers UK**	*+0.45ppl*	40.45ppl manufacture
Cheese, Liquid & Brokered Milk	**First Milk**	*+0.75ppl*	39.5ppl manufacture
Cheese	**Fresh Milk Company (Lactalis)**	*No change*	38.50ppl manufacture
Liquid & Manufacture	**Grahams**	*No change*	36.0ppl
Liquid & Manufacture	**Müller Direct**	*No change*	37.5ppl (includes 1ppl direct premium. Does not include haulage charge)
Liquid & Manufacture	**Müller (Co-op)**	*+0.12ppl*	39.96ppl
Liquid & Manufacture	**Müller (Tesco)**	*-0.6ppl*	41.82ppl

Other News

- Müller has announced a 0.5ppl price rise for June, taking its direct suppliers up to 38ppl (which includes the 1ppl premium for those meeting the requirements of the Advantage scheme).

- As of 1st May, cases of HPIA (highly pathogenic avian influenza) have been detected on 36 holdings across eight states. It is now mandatory that all lactating dairy cows must test negative for HPIA type A before being moved between states. The Food and Drug Administration in the US is adamant that the threat to human health is negligible, as pasteurisation inactivates the H5N1 virus. The spread to the virus in cattle is thought to be either due to the feeding of infected ground up poultry carcases or from infected wild birds gaining access to cattle sheds. Defra are closely monitoring the US outbreak and currently state that the UK dairy cattle population are not thought to be at risk, given that reports of the avian flu virus in birds and poultry are currently very low.

- The new legislation on milk contracts, The Fair Dealing Obligations (Milk) Regulations 2024 will apply from the 9th July 2024 for new milk purchasing contracts. Existing contracts have a further 12-month transition period to ensure compliance and should be completed by 9th July 2025. For more information on the legislation please visit: https://www.nfuonline.com/updates-and-information/dairy-contract-legislation-essential-information/ and https://www.legislation.gov.uk/uksi/2024/537/body/made

- Is the camel the future for sustainable milk production? It is in the Middle East! From a nutritional perspective, camel milk is lower in fat and higher in lactose compared to cows milk and it is also high in vitamin C. With our changing climate, camels are well adapted to cope with hot dry conditions and freezing temperatures in the desert at night. They produce less methane than other ruminants and can survive on little water and roughage for days. While the camels in Africa are reported to produce between 1000 to 2700 litres of milk per lactation, camels in Afghanistan and Pakistan are very high yielding, producing up to 30 litres/day and in some very intensively bred animals, up to 40 litres/day. Intensive camel farming is big business and a rapidly expanding industry. The largest intensive camel farm in the UAE has over 10,000, with fattening units for the male camels for meat production. By the end of the decade, it is predicted that the global value of the market for camel milk will range from US $2 billion to $13 billion.

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Straights Update

UK Cereals Market Update and Global Impacts

Spring UK Cereal Supply and Demand Estimates (AHDB) show well above average end of season stocks for wheat and barley. Despite 2023's production being down 10% and 6% respectively, imports are up over 40% for both crops and exports are down considerably (83% and 36% respectively). Reduced availability of oats, combined with average exports, leads to the smallest ending stocks of oats forecast since 2011/12 (note to growers). The impact of the UK's second wettest August through February since 1837 (when records began) is clearly shown in the latest crop condition report (Table 1). Information collected up to the end of March shows just 34% of UK winter wheat, 38% of winter barley and 37% of winter oats in a good or excellent condition and similarly, less than a third of all oilseed rape. These ratings are sharply lower than last year and below even March 2020's levels.

Table 1. Crop condition for winter sown crops.

Crop	Very poor	Poor	Fair	Good	Excellent
Wheat	17%	23%	26%	25%	9%
Barley	15%	21%	25%	26%	12%
Oats	15%	20%	28%	26%	11%
OSR	18%	25%	27%	25%	6%

Source: AHDB

Similarly, many European crops have been continually impacted by unfavourable wet conditions across the key production regions with reports last week (end of April/start of May) that the state of French soft wheat is the poorest since 2020, with 61% of crops rated good or excellent, down from 97% last season. The spring barley area remains uncertain, and despite an increase being expected due to a lack of winter cropping, current weather leaves doubts over the size of the crop in the ground.

Spring barley planting here in Scotland has progressed well. Surface drying belies the wetter conditions beneath and creating sufficient tilth for good seed coverage has proved troublesome on heavier soils. Reports of having to re-drill earlier sown barleys, lost to surface capping, are also concerning.

The London feed wheat futures have risen considerably over the past few weeks to regain value lost since January. The market has surged by £30/t on the Nov 24 LIFFE since early March. UK feed wheat futures (May-24) are currently at £190.60/t. The Nov-24 contract gained over the same period too, currently at £214.60/t, which means that the price premium between May and November (old and new crop) has moved from parity six months ago, to £25/t currently. The recent bullish market temperament comes from dry conditions reported both in Russia and US states coupled with ongoing Black Sea tensions prompting investment funds to cover short positions.

Following a strong pace over the autumn/winter period for UK oat exports, movements appear to have slowed slightly. According to HMRC, imports of oats this season to date (Jul - Feb) totalled 94.2 Kt. This sits 48% above the five-year average (63.8 Kt) for this period, but 27% below the same point last season (128.6 Kt). Exports to the EU totalled 86.2 Kt this season so far (Jul - Feb). The main destinations for oat exports were Belgium (37.8 Kt), Spain (19.8 Kt) and the Netherlands (15.4 Kt).

Lower supplies of rapeseed are expected in Europe for harvest 2024, (down 8%) which is putting greater reliance on Ukrainian rapeseed supplies this summer (although anticipated down 9%) and on Australian rapeseed supplies at the end of 2024 coming to the market. UK planted area is estimated now to be down 37% this year. Prices will also be helped if the rumours are true of the EU applying 50% import tax on Russian oilseeds and its products.

Table 2. Ex farm Scotland cereal prices.

£/tonne	May 24	Harvest 24	Nov 24
Wheat	200	205	215
Feed barley	175	185	190
Malt. dist. Barley	240	245	
Milling oats	271		
OSR*	370	370	385

**Delivered Dundee*

Sources - AHDB, United oilseeds

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Colostrum Beyond Antibodies - What is New?

Project: Identifying critical control points for colostrum contamination and Mycoplasma bovis prevalence in first milking colostrum from Scottish dairy herds.

When colostrum quality is discussed, it is tempting to think that story has been told. What more is there to know than 10 to 12% of bodyweight of colostrum measuring >22% Brix within the first 6 to 8 hours of life? The short answer is lots - the story is more nuanced. A collaborative Hannah Dairy Research Foundation funded project looked further into colostrum quality on Scottish dairy farms last year. Researchers looked at the bacterial contamination of colostrum at specific critical control points throughout the colostrum harvesting, storing and feeding processes.

Why is a bit of bacteria important? Excessive bacterial contamination does several things to interfere with the transfer of passive immunity in the calf's gut. Bacteria:

1. Block the uptake of antibodies across the calf's gut.
2. Break the antibody molecule so it is no longer functional.
3. Cause damage to the calf's gut lining, meaning it can no longer absorb antibodies.
4. Can cause disease in their own right – for example Johne's, Salmonella, E. *coli.*

Coliform bacteria are particularly responsible for interfering with the transfer of antibodies across the calf's gut lining. Coliforms are a group of bacteria associated with the environment and faecal contamination. Dirty colostrum puts calves at risk of failure of transfer of passive immunity (FTPI). FTPI puts calves at risk of scours, pneumonia, death, reduced daily liveweight gains and reduced productive performance. What we do to these calves in the window of opportunity in the first 24 hours of life has a huge impact on the future of that calf during the early days and way beyond. Let's get it right. Let's make it clean!

A secondary aim of the study was to estimate the prevalence of *Mycoplasma bovis* in first milking colostrum. Many dairy farmers will recognise the challenges *M.bovis* infection on farm can bring.

So what did the researchers find? The noticeable trend is that whilst colostrum starts off clean at harvesting, it progressively gets more contaminated as it passes through storage to the point of feeding. The maximum count in the Feeder sample was 295 million total bacteria count (TBC) CFU/ml (see table 1) and around 70% of Feeder samples failed colostrum cleanliness thresholds for total bacterial and total coliform counts (TCC), as seen in tables 1 and 2 below.

Table 1. Showing the median and max TBC for each critical control point alongside the percentage of samples failing to meet industry threshold for colostrum quality (<100,000 CFU/ml for TBC).

Sample type	Proportion ***failing*** to meet TBC quality threshold (%)	Median TBC	Max TBC
Teat	7.89	4,000	10,700,000
Storage bucket	50.34	101,000	136,000,000
Storage bucket 2	78.95	1,430,000	269,000,000
Storage bucket 3	85.71	1,480,000	12,200,000
Feeder	71.21	410,000	295,000,000

Table 2. Showing the median and max TCC for each critical control point alongside the percentage of samples failing to meet industry threshold for colostrum quality (<10,000 CFU/ml for TCC).

Sample type	Proportion ***failing*** to meet TCC quality threshold (%)	Median TCC	Max TCC
Teat	17.76	1,850	2,750,000
Storage bucket	54.36	12,000	13,000,000
Storage bucket 2	76.32	470,000	194,000,000
Storage bucket 3	100.00	64,000	8,200,000
Feeder	76.52	40,000	182,000,000

Simple messaging around cleaning of equipment – hot water, detergent and physically scrubbing to remove colostrum scum from buckets and bottles. Sorry – a quick swish with cold water doesn't cut it here! Check equipment for perishing – cracks that bacteria can hide in. Does your colostrum harvesting equipment or cluster get cleaned effectively with the normal parlour wash cycle? What could you do to improve the quality of cleaning?

As the colostrum passes through more buckets the dirtier it gets – 100% of samples failed the threshold for coliforms by storage bucket 3. Looking at your colostrum process and streamlining it to minimise transfers and containers will reduce opportunity for contamination, ultimately making the colostrum you feed to the calf cleaner.

The study looked at detailed information regarding on farm colostrum management protocols to establish risk factors for colostrum cleanliness. Interestingly, an association between colostrum cleanliness and the size of container colostrum was stored in was found. This leads to a discussion about the cleanability of equipment used around colostrum harvesting. Getting into hard-to-reach places like handles of bottles, or small containers with tight corners is a challenge. These simply won't be cleaned to a high enough standard.

Finally, a low prevalence of *M.bovis* was found in first milking colostrum – 1.3%. This is the first time the prevalence has been established in a Scottish dairy calf population. Whilst this might be surprising to read for those of you who struggle with the disease, it is in line with other work in this area carried out in Belgium, with a prevalence of 1.9%. The impact of this finding is that when considering *M.bovis* management a multifactorial approach is best. Simply implementing colostrum pasteurisation will help but cannot be considered a silver bullet. Look at ways this bug can spread from calf to calf via fomites or aerosol spread. Consult your farm vet who knows your business well and can offer bespoke advice – there is not a one size fits all approach to controlling *M bovis.*

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Reducing White Line Disease in Dairy Cows

White line disease (WLD) is the second most common cause of claw disease in dairy cows, with an average of 5.5 cases per 100 cows per year (Barker *et al.,* 2009). This disease is caused by the separation of the wall horn from the sole horn, resulting in damage of the white line region. This damage to the horn allows for stones, slurry and soil to penetrate the white line area. White line disease is of significant economic importance, with the average case costing approximately £200.

Hoof with white line disease

Source: NADIS, 2009

Causes

The main causes of WLD include shearing forces, rough surfaces including loose stones (e.g. from poorly constructed cow tracks), roughened concrete grooving, and nutritional factors leading to poor horn quality.

Prevention

Prevention of WLD involves managing factors that lead to damage of the white line. This includes improving the housing environment, cow flow and cow comfort to maximise lying time and nutrition.

Management and housing

The risk of white line damage increases when cows are stood for long periods of time on hard surfaces. Therefore, efforts should be made to minimise standing time in the collecting yard and ensure cow comfort is sufficient to encourage cows to lie down. Observing cow comfort through various means including the Cubicle Comfort Index (Dairy cow cubicle housing design to control environmental mastitis in lactation | AHDB) will highlight whether cow comfort and cubicle size are adequate. The aim is for at least 85% of cows to be lying down at any one time. There should ideally be 5% more cubicles than cows in the building to encourage lying and choice of lying space to reduce the impact of bullying.

Damage to the white line can be caused by turning, twisting and pushing forces on the hooves. These forces tend to occur when cattle are pushing on tracks and in the collecting yard, turning sharp corners (particularly when exiting the parlour) and bullying in the shed. Rubber matting is beneficial in high-traffic areas and where cows have to turn sharp corners. If possible, walkways should be made wider and straighter to minimise twisting forces. Within the shed it would be beneficial to create cross passages in long rows of cubicles and open up blind alleys to improve the flow of cattle.

For grazing herds, the installation of grazing tracks is beneficial to minimise the damage caused by loose stones to the white line area. Astroturf is a popular choice to provide a comfortable walking surface. Cow tracks should only be used by the cattle and not machinery, be stone-free and also free-draining. Extra caution should be given around gateways and water troughs. For more information on cow tracks please visit: https://www.fas.scot/publication/technical-note-tn730-construction-of-a-cow-track-for-access-to-grazing/

Diet

Research by Thomas and Dipu (2014) showed that supplementing with 20mg per head per day of biotin reduced lameness from WLD by up to 50%. The benefit from feeding biotin is a long-term strategy as the response to improved claw health can take up to six months. Cows with a low body condition score are more susceptible to lameness due to thinning of the digital cushion, which can increase the risk of sole bruising. Ensure adequate nutrition with the aim that cows are not losing more than half a condition score unit in early lactation.

Key considerations for reducing white line disease include:

1. Reduce the amount of time cows are stood both in the collecting yard and the shed. Cows should not be away from their feeding and lying area for more than one hour at each milking.
2. Minimise the need for cows to turn and twist by ensuring walkways are wide, and also consider installing matting in areas of high traffic.
3. Installing cross passages in long rows of cubicles and removing blind passageways in buildings to improve cow flow.

4. Cow tracks should be kept machinery-free, free-draining and stone-free to reduce the risk of damage to the white line.
5. Supplementing with biotin can reduce the incidence of WLD, however this is a long-term strategy.

References are available upon request.

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Risk Factors for Twinning

As dairy cattle have been selected over the years for higher milk production, a higher rate of twinning has also been observed. In fact, the rate has tripled over the last 30 years! There are many downsides to a cow having twins, with greater risk of calving difficulties and metabolic issues. Also, mixed sexed twins are more often than not freemartins (infertile) and the cow generally tends to produce less milk and is more likely to be culled than dams producing a single calf.

Twinning occurs either as a result of double ovulation (non-identical twins) or from an embryo splitting very early on in development, producing identical twins. Double ovulation is by far the most common scenario. The risk increases with age, with several studies reporting an incidence of less than 1% for first parity animals to over 5% in cows of highest parity. This increasing incidence may also be linked to higher milk yields with increasing parity. As milk yield rises, so does dry matter intake. Cows with a higher dry matter intake have an increase in blood flow through the liver, resulting in lower progesterone levels. A reduction in blood progesterone increases the likelihood of double ovulation.

The level of milk production in the fortnight prior to oestrus is positively associated with the incidence of double ovulation in Holstein cows. With a milk yield of 40 litres, the incidence of double ovulation is around 25%. However, at 50 litres, the likelihood increases to around 50% (research by Paul Fricke, University of Wisconsin).

Therefore, nutrition has a key role to play, with cows on a rising plane of nutrition and in good or increasing body condition increasing the likelihood of double ovulation, through a higher milk yield and feed intake.

While reducing feed intake is not a recommended strategy for minimising the risk of twins, in herds that use synchronisation protocols for AI (and have a high incidence of twins), it may be worth considering the type of protocol used. For example, increasing the level of progesterone in the blood during the growth of the pre-ovulatory follicle may reduce the risk. This can be done by breeding cows to the first timed AI following a Double Ovsynch protocol.

Cows carrying twins have significantly higher energy requirements during pregnancy (50-70% more), and their dry matter intake in the pre-calving period is lower than those carrying just one calf. In addition, they have a shorter gestation length, meaning that they are less likely to have a full three weeks on a close-up ration. Therefore, it is good practice if cows are known to be carrying twins, to introduce them to the close-up diet earlier, ideally for the whole of the dry period. Keeping them in the close-up group will also reduce social stress, with no pen move from the far off to the close-up group.

Post-calving checks and keeping the cow in the fresh pen for longer to closely monitor her will help with early detection of any health issues and ensure she has a good appetite before being introduced to the main herd. This may help to mitigate some of the negative effects experienced in cows carrying twins.

Bulls have no effect on twinning so the genetics for twinning lies in the cows. Although it is lowly heritable, twins can run in certain cow families and a cow carrying twins is at greater risk of subsequent twinning.

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Slurry Storage - What are the Options?

Once considered a waste product that was scraped into a hole and forgotten about, slurry is now seen as a valuable resource, which if utilised effectively, can help reduce inorganic fertiliser costs, benefit soil health and support crop growth.

Recent slurry storage grants in both Scotland and England have prompted farmers to re-assess their current storage requirements and consider options for increasing capacity. Covering slurry stores has also become a hot topic (particularly in England

where there's talk of potential regulation changes). So, what are the options for storing, covering and agitating slurry? And what are the barriers?

There are numerous slurry storage options available; all have their advantages and disadvantages. When choosing the most appropriate store, considerations should be made regarding its location, the volume to be stored and current farming practices.

Earth-banked lagoons
These offer the most cost-effective, long-term option for storing large volumes of slurry. However, the large surface area will accumulate a significant amount of rainwater.

Pros
- Cost-effective.
- Versatile and easily extendable.
- Long structural lifespan if properly maintained.

Cons
- Accumulates large quantities of rainwater.
- Large lagoons could be difficult to agitate.
- 750mm of freeboard will need to be factored into storage calculations.
- Covering lagoons could lead to challenges with crust formation.
- Embankments are vulnerable to damage from machinery and vegetation.
- Cannot be located in areas with a high water table.

Steel towers
More costly than an earth-banked lagoon, but circular steel towers take up less space and collect less rainwater.

Pros
- Less space requirement and accumulates less rainwater.
- Relatively simple to cover.
- Possible to increase tower height/capacity.
- Can be constructed on land with a high water table.

Cons
- Requires slurry to be pumped and this may not be possible with high dry matter slurry.
- More costly than an earth-banked lagoon.
- Cannot be entered to remove bedding that settles (i.e. sand).
- May not last as long as lagoons or concrete stores.

Concrete stores
These are constructed using pre-cast panels or poured concrete and can be built below ground or above ground and can be either circular or rectangular. Concrete stores vary in cost depending on the design, but above-ground circular stores are typically comparable in price to steel towers.

Pros
- Below-ground stores can be gravity-fed.
- Suitable for high water table areas.
- Can occupy a small area.
- Have a relatively long lifespan.
- Have the potential to be extended.

Cons
- Cost (depending on design).
- Above-ground rectangular stores are difficult to cover.
- May require a complex pumping/mixing system.

Slurry bags
Typically constructed using a reinforced PVC membrane, these are highly effective at stopping nitrogen losses and ammonia emissions but have a limited lifespan and can take up a large area of land. They are usually bunded to protect the area from leaks. Slurry bags could be moved once emptied, which may offer a solution for businesses looking to store slurry further away from the farm or on seasonal land.

Slurry store covers
Covering the store with an impermeable cover will keep out rainwater and could provide an additional 30% more storage in addition to minimising ammonia emissions by up to 90% (and retaining 10% more nitrogen). However, higher dry matter slurry can pose challenges when pumping, most notably when using umbilical systems.

Impermeable covers can be floating or self-supporting. Floating covers are more cost-effective but have a limited lifespan (5 to 10 years) and will require rainwater to be pumped from the surface. Floating covers are the most practical solution for covering lagoons, but crust build-up underneath will need to be addressed. Self-supporting covers are fixed around the rim of the store using tensioned ratchets and supported using a central pole, creating a dome-shaped roof that diverts rainwater

away from the store. These cost 4 to 5 times that of floating covers but provide a longer-term solution and will allow the crust to be incorporated easily. Stores may need to be reinforced to support a fixed cover.

Agitation
Mixing will homogenise the slurry and provide a more consistent product. The list of options for mixing slurry is endless. However most involve circulating the slurry by pumping and jetting or mixing using a submersible propellor. Other options include aeration systems and slurry additives/enzymes.

A Landia mixer for agitating slurry

Photo courtesy of Jason Parker

What to consider:

- The surface area of the store: will a standard reception pit/jetter set-up be effective at mixing stores with a large surface area?
- The volume of slurry to be mixed: will multiple agitators be required?
- P.T.O or electric: can a tractor be spared for frequent mixing? What is the cost of running an electric mixer? Can electricity be supplied? Will 3-phase be required?
- Fixed or portable: can mixers fixed to the inside wall of a sealed store be serviced and maintained easily?
- Is the store covered? Lagoons with a floating cover may require specialist mixing equipment.

The limitations of the options listed above should be discussed with the supplier and a suitably qualified engineer. New stores must be designed to SSAFO specifications and projects should be discussed with SEPA and the local planning authority.

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Funding for Business Energy Efficiency

Electricity use accounted for around 3% of the average dairy farmers costs in Scotland in the 2022/23 Scottish Farm Business Survey (and was 4.32% of fixed costs). As such, improving the energy efficiency of your buildings and equipment is important to future proof your business.

SME Loan Scheme
Business Energy Scotland have launched a new Small Medium Enterprise (SME) loan scheme to fund improvements in energy efficiency. A SME is defined as a business with a turnover of less than £42 million and a balance sheet total not exceeding £36 million and less than 250 employees. As such, most dairy farms in Scotland are classed as an SME. The loan has a lower limit of £1,000 and an upper limit of £100,000 and includes a cashback component of no more than £30,000. This means that some of the cost of the measure you apply for is refunded to you, with the remaining loan amount to be paid back within eight years at 0% APR.

What is eligible?
On the Business Energy Scotland website there is an extensive list of eligible measures, but it is not exhaustive. Options listed that are of particular interest to dairy farmers are as follows:

- Heating, ventilation and air conditioning - cooling system replacement/upgrade, ventilation systems and building control systems.
- Renewables - wind turbines, small scale hydro, solar panels, biomass and anaerobic digestors.

- Other equipment - measuring, monitoring and control equipment, lighting systems, fitting and controls and air compressors.

Any measure which reduces your carbon footprint through increasing your energy efficiency is potentially eligible and measures not on the list are considered on a case-by-case basis. When considering whether a measure would potentially be eligible for funding you should consider whether it meets one of the following criteria:

1. Reduces energy usage.
2. Increases efficiency of energy usage.
3. Transitions energy use to a greener energy source.

There is also an extensive list of case studies available on the website showing examples of what measures other businesses have applied for.

Measures that result in no carbon savings, or result in carbon increases, are ineligible for funding. If the technology you wish to install has a payback of more than 20 years, it will not be eligible for funding.

How do I apply?
To apply for funding from the SME Loan Scheme, you need a report from Business Energy Scotland that recommends the energy efficient systems, equipment and/or building fabric improvements that you would like to use the funding to install.

Business Energy Scotland's reports are free and it typically takes between 2 to 6 weeks to prepare your report, depending on the complexity of your requirements. Once the application is submitted to the fund administrators, providing they have all the information they require, they aim to make a decision within ten working days.

How does the cashback work?
Cashback is awarded based on the total value of eligible measures applied for within your loan application.

The cashback grant funding can be awarded as per below:

- 75% of eligible costs up to a maximum of £20,000 can be claimed by the qualifying applicant for energy efficiency measures (see list of measures on page 8 of the application form).
- 75% of eligible costs up to a maximum of £10,000 can be claimed by the qualifying applicant for air/ground/water source heat pumps, biomass boilers, or solar thermal renewable technologies.

A maximum of £30,000 cashback can be awarded to a single business for eligible technologies and across all their SME applications (previous or current).

Further information
For further information on the scheme please visit the Business Energy Scotland website available at https://businessenergyscotland.org/smeloan/ or alternatively contact Business Energy Scotland on 0808 808 2268.

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Dates for Your Diary

- 11th May - **Ayr Show**. The Racecourse, Craigie Road, Ayr, KA8 0HA. Time: 09.00-17.00.
- 18th May - **Fife Show**. Kinloss, near Cupar, KY15 4PE. Time: 09.00-17.00.
- 21st May - **PSF Animal Health and Welfare: Cattle**. On-line event. Time: 20.00-21.00. For more information and to book your place please visit: https://www.fas.scot/events/event/psf-animal-health-welfare-cattle/?ct=t(EMAIL_CAMPAIGN_Aug23_COPY_01)&mc_cid=cd3bc49606&mc_eid=07bb075e92
- 1st June - **World Milk Day**. https://worldmilkday.org/
- 1st June - **West Fife Show**. Easter Bucklyvie Farm, Crossgates, KY4 8ET. Time: 8.30-17.00.
- 8th June - **Stirling Show**. Gogar Mains Farm, Blairlogie, FK9 5QB. Time: 09.00-17.00.
- 20th June - **Scottish Dairy Hub – Drop-in Session** at the Royal Highland Show. Time 10.00-12.00 and 14.00-16.00.
- 20th - 23rd June - **Royal Highland Show**. Royal Highland Centre, Ingliston, Edinburgh, EH28 8NB.

For any further enquiries regarding the information in this newsletter please contact:

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