

Issue 53

March 2023

# Milk Manager NEWS



**Farm  
Advisory  
Service**

National Advice Hub  
T: 0300 323 0161  
E: [advice@fas.scot](mailto:advice@fas.scot)  
W: [www.fas.scot](http://www.fas.scot)



## Contents

<b>Milk Market Update</b> Global and domestic situation	1
<b>Straights Update</b> Cereal prices and market information	3
<b>Are Your Heifers Ready for Spring Turnout?</b> Considerations to maximise performance at grass	4
<b>Preventing Silage Slippage this Season</b> What are the risk factors?	5
<b>Future Technology on Show at the Low Carbon Agriculture Conference</b> Innovation on the way for dairy farmers	6
<b>Efficient Feeding of Protein</b> Is there scope to reduce feed costs?	7
<b>Can You Afford Luxury Uptake?</b> Importance of soil potassium status	8
<b>Dates for Your Diary</b> Webinars and events	9
<b>This month's editor:</b> Lorna MacPherson	



Scottish Government  
Riaghaltas na h-Alba  
[gov.scot](http://gov.scot)

  
**SAC**  
CONSULTING  
Part of Scotland's  
Rural College (SRUC)

## Market Update

### UK Wholesale Dairy Commodity Market

- Fonterra's latest on-line GDT auction (7<sup>th</sup> March) resulted in a 0.7% fall in the weighted average price across all products, reaching US \$3,403/t. The previous auction on the 21<sup>st</sup> of February also returned a drop in the price index of 1.5% and four out of the five auctions held so far this year have showed a negative trend. Cheddar was the biggest mover in price, dropping 10.2% to \$4,509/t. Butter milk powder and skim milk powder also fell 4.5% (to \$2,521/t) and 1.1% (to \$2,739/t) respectively. Full results are available at <https://www.globaldairytrade.info/en/product-results/>
- Prices of domestic dairy products continue their downward trend, with cream showing the biggest drop in average price from January into February. Despite a jump in the butter price and increased demand in the EU, ample supplies of cream kept pressure on the market and prices ranged throughout the trading period from £1,400/t to £1,600/t.

Commodity	Feb 2023 £/t	Jan 2023 £/t	% Difference Monthly	Feb 2022 £/t	% Diff 2023- 2022
Bulk Cream	£1,508	£1,747	-14	£2,239	-33
Butter	£3,920	£4,120	-5	£4,930	-20
SMP	£2,200	£2,270	-3	£3,030	-27
Mild Cheddar	£3,680	£4,200	-12	£3,960	-7

Source: AHDB Dairy - based on trade agreed from 23<sup>rd</sup> Jan - 24<sup>th</sup> Feb 2023. 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.

- There was significant volatility in the butter market, with prices rising on the back of increased buying from the falling price earlier in the trading period and the unexpected 3.2% rise in the average price of products sold in the GDT auction on the 21<sup>st</sup> of February. There are signs that domestic commodity prices are starting to stabilise, with smaller price drops seen in February. Prices for butter, SMP and whey milk powder are down between 31-39% from their peak in October, with cream and mild cheddar back 50% and 26% respectively.

- Demand for mild cheddar has been subdued and rising stocks on the back of product made when milk supply increased last Autumn has contributed to the average price falling by 12% in February. The price has also been affected by lower prices of fresh cheeses in the EU.
- The market indicators AMPE and MCVE continue to fall for February, with AMPE dropping 1.69ppl and MCVE by 4.99ppl since last month. The drop in MCVE is mainly attributed to the mild cheddar component falling 5.71ppl, while the whey powder component increased marginally by 0.83ppl. The drop in AMPE was significantly less, with the butter component 1.01ppl less and the SMP component back 0.58ppl from January. The Milk Market Value (MMV) of milk also plunged from its January price of 42.58ppl to 38.27ppl for February. MMV prices tend to closely compare with changes to the farm-gate milk price in three months' time.

	Feb 2023	Jan 2023	12 months previously	Net amount less 2.4ppl average haulage – Feb 2023
AMPE	33.47ppl	35.09ppl	48.86ppl	31.07ppl
MCVE	39.47ppl	44.46ppl	45.81ppl	37.07ppl

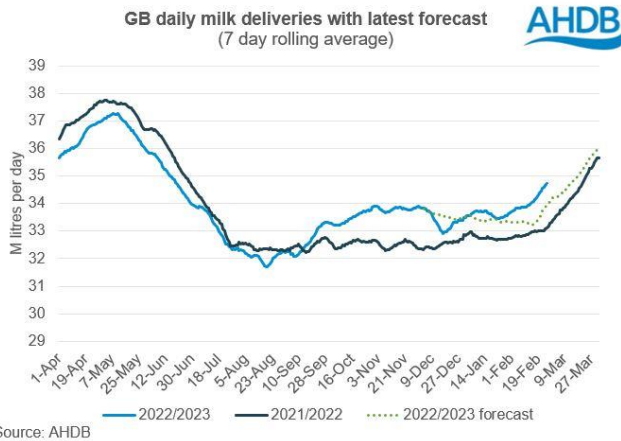
Source: AHDB Dairy

- Defra put the UK average farm-gate milk price at 51.51ppl for December, up 0.45ppl from November and 49% higher than December 2021. The UK volume for December was 1,238 million litres, which was 3.2% more than the previous month and 1.7% higher than December 2021. The Dairy Group's milk price forecast puts the February price at 47ppl, 43.5ppl for March and 41ppl for April. From April onwards, milk price will be dictated by milk volumes and any changes in liquid and cheese prices, but it is expected that marginal litres could be in the region of 30ppl.
- For the week ending 3<sup>rd</sup> of March, cream was trading around £1.60-£1.65/kg ex works (the previous week it ranged from £1.62 up to the low £1.70's/kg). The price for spot milk has been weakening and has now fallen below the 40ppl mark, ranging from 31 to 38ppl delivered. For the previous week, it was in the region of 32-40ppl.

# Milk Manager NEWS

## GB Milk Deliveries and Global Production

- For the week ending 25<sup>th</sup> of February, deliveries were up 1.5% on the previous week, with a daily average of 34.74 million litres/day. Deliveries are now 4.9% above the same week in 2022, equating to an additional 1.64 million litres/week.



- Looking ahead, the cold weather is forecasted to continue well into March, and with snow currently in much of the country, grass growth will be limited. For those in areas of low forage stocks, the relatively dry spring will be favourable to turning out cows, but milk production may be limited by slow spring grass growth.
- Global milk deliveries from the six key exporting regions for December were slightly above last year's production, with a daily average of 808 million litres/day, 0.4% higher than December 2021 (an extra 3.1 million litres/day). This increase mainly came from the UK, EU-27 and US, with production up 1.5%, 0.9% and 0.8% respectively compared to December 2021. In the EU, increased production was mainly driven by growth in Germany (+3.1%), Netherlands (+4.1%) and Ireland (+7.4%). Production in the southern hemisphere has been impacted by poor weather conditions, especially in Australia where production was back 6.5%.

## Monthly Price Movements for March 2023

- All major milk buyers in Scotland have significantly reduced their milk price for March, ranging from 2.68 to 5ppl. However, price movements will depend on the type of contract, with those dairy farmers on a Müller M&S

contract having seen their March milk price maintained at 52.66ppl.

Commodity Produced	Company Contract	Price Change from Feb 2023	Standard Litre Price Mar 2023
Liquid & Cheese	<b>Arla Farmers UK</b>	-3.39ppl liquid -3.52ppl manufacture	43.18ppl liquid 44.95ppl manufacture
Cheese, Liquid & Brokered Milk	<b>First Milk</b>	-4ppl	45.69ppl manufacture
Cheese	<b>Fresh Milk Company (Lactalis)</b>	-5.00ppl liquid -5.18ppl manufacture	41.81ppl liquid 43.49ppl manufacture
Liquid & Manufacture	<b>Grahams</b>	-4ppl	40.0ppl
Liquid & Manufacture	<b>Müller Direct</b>	-3ppl	43.75ppl (includes 1ppl direct premium and -0.25ppl Scottish haulage charge)
Liquid & Manufacture	<b>Müller (Co-op)</b>	-2.68ppl	44.15ppl
Liquid & Manufacture	<b>Müller (Tesco)</b>	-3ppl	44ppl
Liquid, Powder & Brokered	<b>Yew Tree Dairies</b>	-3ppl	44ppl Standard A litre price

## Other News

- Substantial milk price cuts have already been announced for April by two of the UK's biggest processors (amongst others). First Milk is set to drop its price by 3ppl to 42.69ppl (for manufacturing) and Müller by 1.5ppl to 42.5ppl on the back of continued market pressures, with a reduction in consumer demand and milk supply above forecasted levels. So far, current announcements for April put Glanbia Cheese at the bottom of the table with their manufacturing standard litre down 4.5ppl to 38.75ppl and their liquid standard litre down 4.31ppl to 37.44ppl.
- Arla has reinforced its commitment to reducing emissions across its value chain by 30% no later than 2030, by stating its farmers will receive a higher milk price based on actions taken to reduce environmental impact. Farming accounts for over 80% of the Co-op's carbon footprint. The first incentive payments, based on a points system, will be made in August this year and farmers can earn up to three eurocents

# Milk Manager NEWS

---

per kg of milk. Points will be awarded based on actions taken in the following areas:

- Investing in renewable energy
  - Efficiency in manure management and fertiliser use
  - Production of biogas
  - Impact on nature
  - Demonstrate sustainable feed supply chains
  - Efficient feeding management
- There is a wealth of information available on the findings of the Dairy-4-Future project on the CAFRE website. This was an EU Interreg funded project involving 100 dairy farms across eight countries in western Europe in the Atlantic Area. The project aimed to improve the competitiveness, resilience and sustainability of dairy farms in the area by developing innovative and efficient farming systems, as well as strengthening collaboration between the farms and various research and industry partners. More information on this three-year project and findings can be found here: <https://www.cafre.ac.uk/business-support/agriculture/dairy/dairy-4-future/>

[lorna.macpherson@sac.co.uk](mailto:lorna.macpherson@sac.co.uk); 07760 990901

## Straights Update

### Global News

- Despite Brazil being on track to harvest the largest soyabean crop on record, the market is dominated by drought concerns in Argentina. The forecasted soyabean harvest (by the Rosario Grain Exchange) has been cut from 37 to 34.5mT, while the Buenos Aires exchange puts it at 38mT. If the drought continues, crop condition will deteriorate. On the other hand, in Brazil the harvest is being delayed by prolonged rain and the forecasted soyabean harvest has been reduced by 2mT to 150.9mT. However, it will still be significantly higher than the 125.5mT produced in the previous year.
- Maize production estimates in Argentina have also been cut from 44.5mT to 41mT. The wet weather in Brazil has delayed the second maize crop planting as a result of a late soyabean harvest. It is thought that at least 50% of the maize crop could be drilled after the ideal planting window, reducing its potential yield.

However, the country is still anticipated to harvest a record maize crop of 125mT, which is 9mT more than last year.

- The Ukraine Black Sea export agreement with Russia and the UN looks set to be renewed on the 18<sup>th</sup> of March. However, Russia has emphasised that the deal would only be renewed if their agricultural produce and fertilisers have unrestricted access to global markets.
- Looking ahead, wheat production from the major global producers and exporters could fall drastically this year. SovEcon has dropped the Russian wheat estimate from 86mT to 85.3mT, which is significantly less than the 104mT produced in 2022. Wheat production in Ukraine is also estimated to drop from 22mT to 15mT this year due to the on-going impact of the war. Australia's wheat production is estimated to be as low as 25mT by Graincorp, which would be back significantly from the record 38 million tonnes harvested this last season. It is thought that the emerging El Niño weather phenomenon could result in the country being much drier than usual in the second half of 2023 resulting in lower yields.

### UK and Scottish News

- Looking at the price charts for grain and nitrogen over the last 12 months, it reminds one of the nursery rhyme lyrics: "Jack and Jill went up the hill to fetch a pail of water, Jack fell down and broke his crown and Jill came tumbling after". As of 7<sup>th</sup> of March wheat is back down to pre-Ukraine war levels at £224/t for Nov 2023 and nitrogen has followed. Optimists are discussing the likelihood of prices falling further and even below the £400/t mark in the coming months for ammonium nitrate; such has been the volatility in both markets.
- At the centre of all this is Russia, continuing to export the cheapest wheat in the world at a rate of some four million tonnes per month, and not just out of the Black Sea Region but from all its ports. Its Achilles heel perhaps, is the tremendous bureaucratic delay enforced upon boats both coming in and going out, which is starting to make UK wheat look a more attractive alternative source for European destinations. That's not a bad thing, as the UK still has upward of a half million tonnes to export

# Milk Manager NEWS

before July and the new crop comes in. Sterling's weak value against the Euro is helping our export competitiveness, and our exportable surplus this year, in part, links in with the 10% reduction in home cereal usage in animal feeds over the last seven months compared to 2021/22. Barley is now below £200/t ex farm in several areas on the back of reduced domestic and export demand.

- Market traders will be aware that Europe could continue in its current dry spell into April and how soon might that impact on yields? It is fair to say there is a lot of weather developments influencing domestic markets right now; from Argentinian drought conditions to USDA reports on drought conditions in hard red wheats, to possible El Niño effects on Australia's harvest, late in 2023.
- Ex farm prices for cereals are as follows:

Ex farm Scotland only	Feed wheat	Feed barley
March 2023	233	200
May 2023	236	203
November 2023	224	210
May 2024	232	212

Source: AHDB, SAC Consulting and Graindex

- While fertiliser prices have been falling significantly on the back of lower wholesale gas prices, and oil prices now down to 2021 levels, feed costs still remain high. Although cereal prices have been falling, protein remains a high cost on the back of drought in south America and soyabean meal is currently around £575/t delivered. Although feed costs should ease going into the summer, with soya predicted to drop £45/t for June, farmers will still be grappling with relatively high input costs while milk prices fall 15-20% this spring.

[lorna.macpherson@sac.co.uk](mailto:lorna.macpherson@sac.co.uk); 07760 990901  
[mark.bowsher-qibbs@sac.co.uk](mailto:mark.bowsher-qibbs@sac.co.uk); 0131 603 7533

## Are Your Heifers Ready for Spring Turnout?

As the days lengthen, thoughts begin to turn to spring turnout and getting heifers ready for the transition from a forage-based diet to a grass-based diet. For the youngest heifers, the change in diet

and management will probably be the most sudden they will experience in their lifetime. Heifer growth can be impacted by the change; however it is key to avoid this check in growth when targeting 85% of mature weight for age at first calving being 24 months, as seen in the following table.

### Percentage mature weight to target at different stages, using an average mature weight of 685kg

Age (months)	Stage	Body weight (kg)	% of mature weight
0	Birth	40	6
3	Post-weaning	116	17
9	Puberty	274	40
14	Pre-breeding	377	55
24	Pre-calving	582	85
	Adulthood	685	100

Source: Adapted from AHDB.

Forages like haylage, silage or straw generally have a high dry matter whereas spring grass will have a lower dry matter, resulting in the heifers needing to eat a higher quantity of grass to meet their dry matter intake requirement for good growth. Poor intakes and poor grass quality can impact the heifer's growth rate during the grazing period. The target dry matter intake for heifers is 2.5% of their bodyweight, and as heifers are still growing, their intake of grass will gradually increase to meet their maintenance requirements. Maintaining a target growth rate of 0.8kg per day can be challenging if grass growth is poor, therefore heifers may not be able to meet their required dry matter intakes.



Calves tend to be selective grazers; therefore it is important to offer fresh grass on a regular basis. Using a rotational grazing system between the calves and yearling heifers, with the yearlings following the calves, will aid grass growth rates and grass utilisation, as the yearling heifers will be more likely to graze down to the target residual of 1500kg DM/ha. Rotationally grazing calves and yearling heifers will create quality leafy grass aiding rumen development. It is important to remember that the rumen bacteria take up to three weeks to adapt to the change in diet and produce the required energy for growth.

Ideally, and if practicable for the system, calves should be grouped at turnout dependant on age and weight. Calves should be monitored regularly, with calves that are not keeping up moved to a more appropriate group. During the transition period, particularly in the youngest heifers, continuing to feed concentrates in the first couple of weeks out at grass will aid in maintaining growth rates. Throughout the summer months, a worming programme should be followed after consultation with your vet.

Ensuring that there is fresh, clean water at grazing is important to help maintain growth rates. If the heifers are grazing similar fields to the milking cows, you may need to consider whether the youngest heifers can reach the trough and utilise it. If grass quality declines, or if the weather is unfavourable, it is important to monitor performance and provide extra feed such as concentrates or forage to prevent any drop in growth rates.

Like milking cows, calves and heifers can become heat stressed if temperatures are above 25°C. To counteract the heat, you may notice calves start to breathe quicker, graze less, drink more water, spend less time lying down and spend more time standing up. The heifer's energy will be diverted to trying to keep cool, so there will be less energy available for growth. During hot weather, it is important that the calves and heifers have access to areas of shade so that they can move out of direct sunlight.

Getting all the parts of heifer grazing correct can be a challenge, however through careful monitoring and management it can lead to a successful period with heifers reaching their target growth rates of 0.8kg per day.

[cara.campbell@sac.co.uk](mailto:cara.campbell@sac.co.uk); 01586 552502

## Preventing Silage Slippage this Season

There are many risk factors associated with slippage of silage clamps, which can cause significant spoilage of silage around the area of slippage. The result is poorer quality silage and possible mycotoxin related issues in cattle. It is worth assessing the risk factors for slippage on your farm if this has been an issue in the past. These include:

### Maturity of Grass at Cutting

Young, leafy grass swards, typical of multi-cut silage systems, with high D values of around 75% and low NDF contents less than 45% have a higher risk of slippage. This is because the grass has less structural fibre to help hold the silage in place in the clamp and is also less likely to contain more fibrous varieties such as cocksfoot, timothy or fescues. Another contributory factor to slippage is the inclusion of white clover, which has a lower fibre and higher water content than perennial ryegrasses.

Younger grass also has a higher oil content (up to 10%) compared to more mature grass (which can be as low as 3% when fully headed), and interestingly some farmers that have had problems with slippage have commented that their silage felt oily. Newer grass varieties may also have a higher oil content.

Although higher quality grass can increase the risk of slippage, the aim should still be to make the best quality silage possible to maximise animal performance but focus on what can be done in terms of clamp filling, consolidation and forage chop length to reduce the risk.

### Chop Length

Slippage tends to occur more in clamps where the silage has a shorter chop length. This is especially true with low dry matter silages. For multi-cut silages a minimum chop length of 5cm is recommended, even if the dry matter (DM) is over 30%. Chop length should vary with DM, with a longer chop length for wetter material (see following table).

## Recommended chop lengths of silages of various dry matter contents

Dry matter of silage (%)	Recommended chop length (cm)
Over 37	1 - 2
32 - 37	2.5
28 - 32	2.5 - 5
22 - 28	8
Below 22	8 - 10

Source: Dr David Davies, Silage Solutions Ltd.

### Filling the Clamp

The clamp should be filled in shallow, flat layers with an angle no greater than 20 degrees. The greater the angle, the greater the risk of slippage, especially if consolidation and silage density are not consistent throughout the clamp. Layers should be no more than 15cm depth if the target dry matter is achieved, although can be up to 25cm if the DM is less than 25%.

### Consolidation

A recent study by AHDB on ten farms that had issues with clamp slippage revealed that inconsistent consolidation was the main risk factor. Generally the density of silage is greater lower down the clamp, but if consolidation is uneven throughout, any heavier (denser) areas of silage on top of lighter (less dense) areas, could encourage slippage. Areas of poor consolidation, where there may still be oxygen present, are likely to have more acetic acid produced during the fermentation. A more acetic acid fermentation also produces CO<sub>2</sub> and water. These areas of poorer fermentation will end up being wetter, with silage of higher density and therefore more likely to slip.

Over consolidation can also cause a problem, particularly with wetter material (less than 25% DM). Over rolling can cause the grass plant cells to burst, releasing more sap and lubricating the silage.

### Clamp Dimensions

Slippage is more likely to occur in wider and higher clamps, with higher clamps having more vertical weight pushing down on the base of the clamp. Wider clamps tend to have less frictional forces exerted on the silage from the walls and so are less effective at holding the silage in place.

### Top Tips

The following recommendations should help reduce the risk of slippage:

- Adjust the chop length depending on the dry matter and quality of the grass. A longer chop length is required with wetter silages and those with a higher digestibility (young, leafy grass).
- Target a DM of 28-32% with a fast wilt of less than 24 hours to reduce nutritional losses.
- Fill the clamp in shallow layers of the follow depths for different dry matters. The angle of the layers should be no more than 20 degrees.
  - 15cm layers for DM over 28%
  - 20cm layers for DM between 25-28%
  - 25cm layers for DM less than 25%
- Ensure even rolling of all layers so that consolidation and therefore silage density is consistent throughout the clamp.
- Do not overfill clamps and if slippage has previously been an issue, reduce the height of the grass ensiled and bale any excess.
- If the clamp is very wide, consider splitting it in two to create narrower clamps. This will also aid keeping quality, with less risk of aerobic spoilage, as it will take fewer days to cross the silage face.

[lorna.macpherson@sac.co.uk](mailto:lorna.macpherson@sac.co.uk); 07760 990901

## Future Technology on Show at the Low Carbon Agriculture Conference

I recently attended the Low Carbon Agriculture Conference at the NAEC in Stoneleigh Park. There were several technology demonstrations across the conference, where companies presented new and innovative equipment to help farmers reduce their emissions and improve their profitability. However, the standout presentation for me was from a small start-up company in England which has developed a micro-Anaerobic Digestion (AD) solution for dairy farms with 100 or more cows.

The technology was originally developed to provide heat and electricity in refugee camps and is now in the final stages of trials before becoming commercially available to farmers in the UK. It enables dairy farmers to utilise their slurry to produce renewable electricity and heat for use on farm. This containerised system enables it to be scaled up or down as slurry production on farm increases or decreases.

Figures on performance and cost are not finalised as the product is still being tested but there are currently two on-farm trials on-going in the UK.

The micro-AD plant at its minimum for 100 cows is made up of two containers: one control unit/combined heat and power plant (CHP) and one digestion unit. As stated above, more digestion units can be added to increase capacity. The processing time for the slurry is estimated to be 12 days, at which point the slurry/digestate can be transferred to a conventional store. This is quicker than more conventional AD plants, where digestion takes around 28 days.

Through initial trials, the technology has been shown to lead to a reduction of around 75% in slurry-related emissions during storage. In addition, a two-container set up is predicted to have an installation cost of £300,000, with a payback period of between 3-7.5 years. In addition to the stated benefits, the micro-AD system will also have lower planning and regulatory constraints due to its small size when compared with larger scale digestors.

If this technology can be successfully developed and rolled out to commercial dairy farms it can be a real game changer for the dairy industry's carbon footprint and for the wider circular economy. Not to mention insulating dairy producers from fluctuations in energy markets, which is particularly relevant just now. The company developing this technology aims to start rolling out commercial units in mid-2024, so the technology isn't ready yet, but it is one to look out for.

[james.orr@sac.co.uk](mailto:james.orr@sac.co.uk); 01292 525010

## Efficient Feeding of Protein

Cows are very inefficient converters of dietary nitrogen (N) into milk, with an approximate efficiency of converting feed N into milk ranging anywhere from 22-33%. The efficiency of N use increases as the dietary protein content reduces and so there has been a lot of interest in reducing the crude protein content of dairy diets in order to improve the efficiency of dietary protein use and reduce N excretion to the environment. Overfeeding protein quite often will not give any performance benefit and is costly. In addition, many protein concentrates tend to have higher CO<sub>2</sub> emissions associated with them, compared to cereals and by-

products, and so feeding a lower protein diet can help contribute towards a lower carbon footprint.

Over the years, crude protein levels in dairy diets have been reduced from the norm of 18%+ and many farmers are now working with 16% diets (on a dry matter basis) without any reduction in milk output compared to when higher protein diets were fed. Crude protein refers the total protein supplied in the diet rather than just what the cow requires. Therefore, cows do not have a requirement for a percentage of protein in the diet. Rather, they require a supply of both rumen degradable protein (RDP) to form microbial protein (MP) and undegradable (bypass) protein, which combined makes up metabolisable protein. This is the protein available for use within the cow for maintenance, growth, pregnancy and lactation.

Rations high in grass and grass silage which have a high crude protein content can be difficult to balance, without leading to an oversupply of RDP. They require starchy concentrates to supply plenty of rumen available energy to the rumen bugs. This allows the rumen bugs to utilise the nitrogen produced from the rapid breakdown of RDP in grass (and grass silage) to synthesise microbial protein. Oversupplying RDP has an energy cost and excessive levels can increase the rate of body condition loss in early lactation.

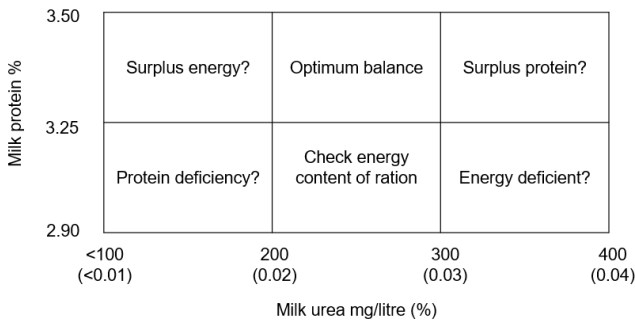
With lower protein diets around 16% or slightly less, there is a good chance that methionine is deficient. Methionine is an essential amino acid for dairy cows and is the 1<sup>st</sup> limiting amino acid, with a deficiency impacting on milk yield and milk protein content. It also has a role in improving liver function and immunity and so is becoming an increasingly used addition to transition cow diets. Benefits include improved energy status around calving and in early lactation, with less risk of ketosis, improved immune status and better milking performance.

Milk urea can give crude indicator as to whether protein supply is adequate (see following diagram). If milk urea is low (below 0.02% or 200mg/litre it can indicate a lack of RDP in the diet, or an excess of rumen fermentable energy (from starchy cereals or sugar sources such as molasses). If low milk urea is also accompanied by low milk protein percentage, it is likely that RDP is deficient. If milk urea is high, then either there is an excess of RDP and/or insufficient rumen available energy to help utilise excess protein. If high milk urea is



accompanied by low milk protein, then it is more likely a result of energy deficiency. In this situation cows are more likely to be mobilising body reserves and lose more condition in early lactation.

## Milk urea and dietary protein guidance



Source: Adapted from Kingshay

The muck will also give an indication of protein supply – if it is too loose there could be an excess of RDP and if it is on the stiff side, or there is present undigested feed e.g., grain or forage particles greater than 0.5 inch long, there is likely a lack of RDP which can restrict rumen function and feed conversion efficiency.

When working with low crude protein diets of 16% or slightly less, the inclusion of rumen protected methionine may benefit milk yield and milk protein percentage. Given the current high feed costs, it is worth reviewing the milking cow diet to see if savings can be made in protein supplementation in conjunction with an up-to-date forage analysis.

[lorna.macpherson@sac.co.uk](mailto:lorna.macpherson@sac.co.uk); 07760 990901

## Can you Afford Luxury Uptake?

As the days lengthen and grass growth starts to increase, many are looking forward to turnout. With this in mind, it is worth looking at the role of potassium (Potash or K) on plant and animal health.

In grass, K is required to develop and maintain the strength and structure of the plant by maintaining water balance in the cells. Potassium also plays a role in sugar formulation, assists root development and is involved in the transport of metabolites and nutrients within the plant.

If there is a deficiency of K, older leaves will turn brown and die off. Though direct impact of K deficiency is only rarely observed, it appears to play

an important role in tolerance of heat, drought and, more importantly in this part of the world, cold. Potassium also has an effect on nitrogen use efficiency. So, if your K isn't right, you will not be making best use of N. Although fertiliser prices are now dropping, there are few that can afford to throw money away.

The lower soil pH is, the harder it is for K molecules to adhere to soil particles. This means that they will be more prone to leaching.

Too much K also has its problems. The first thing that comes to mind for most is the interaction with magnesium in the gut and the milk fever risk this poses to transition cows. Many now take silage for dry cows from fields that have not received any K fertiliser or slurry.

Rapid spring grass growth and an abundance of K can lead to plants taking in more than they need. This is known as luxury uptake. The uptake of extra K means that the plant can't absorb as much magnesium, leading to lower magnesium uptake by grazing stock. This can cause grass staggers, but the risk can be reduced by applying K fertiliser later in the season. However, a high magnesium mineral should always be given to stock two to three weeks before grazing as a precaution.

At a soil level, excessive K can cause clay particles to disperse and clog pore space. This can lead to reduced water infiltration and waterlogged soils. Soil structure in areas receiving more slurry than they need can be hit with the double whammy of a very high K status not letting water away, as well as compaction from heavy traffic.



To get K soil status just right, offtake has to be matched with input, taking account of soil reserves.

# Milk Manager NEWS

The only way to do this properly is to soil sample regularly. This does away with any assumptions about your soils and lets you see exactly what each field needs. There is currently funding available towards soil sampling under Preparing for Sustainable Farming (PSF), the first part of the National Test Program <https://www.ruralpayments.org/topics/all-schemes/preparing-for-sustainable-farming--psf/>

Once you have these results, a nutrient budget can be prepared. To increase the accuracy of this budget, slurry should also be analysed. Standard figures cannot be expected to reflect exact conditions on farm. Samples can be sent away for lab analysis and some contractors are now using real-time slurry analysis equipment that can give the nutrient content of slurry as it is being spread.

There is also financial assistance available towards nutrient budgeting in the form of Specialist Advice from the Farm Advisory Service <https://www.fas.scot/specialist-advice/>

[alasdair.scott@sac.co.uk](mailto:alasdair.scott@sac.co.uk); 01555 662562

## Dates for Your Diary

- 13<sup>th</sup> March - **Nitrate Vulnerable Zone Rules Refresher Webinar**. On-line event. Time: 19.00-21.00. To book your place please visit: <https://www.fas.scot/events/event/nitrate-vulnerable-zone-rules-refresher-webinar/>
- 16<sup>th</sup> March - **Lanarkshire New Entrants – Funding Opportunities to Improve Herd Performance**. On-line event. Time: 19.00-20.00. To book your place please visit: <https://www.fas.scot/events/event/lanarkshire-new-entrants-funding-opportunities-to-improve-herd-performance-webinar/>
- 23<sup>rd</sup> March - **Safe Use of Veterinary Medicines**. On-line course. For more information contact event organiser Embryonics on 01606 854411 or email: [courses@embryonicsltd.co.uk](mailto:courses@embryonicsltd.co.uk)
- 27<sup>th</sup> - 29<sup>th</sup> March - **Herdsman Foot Trimming Course - Lanarkshire**. For more information contact event organiser Embryonics on 01606 854411 or email: [courses@embryonicsltd.co.uk](mailto:courses@embryonicsltd.co.uk)
- 30<sup>th</sup> March - **Mobility Scoring Workshop - Lanarkshire**. For more information contact event organiser Embryonics on 01606 854411 or email: [courses@embryonicsltd.co.uk](mailto:courses@embryonicsltd.co.uk)
- 17<sup>th</sup> - 19<sup>th</sup> April - **Herdsman Foot Trimming Course - Stranraer and Dumfries**. For more information contact event organiser Embryonics on 01606 854411 or email: [courses@embryonicsltd.co.uk](mailto:courses@embryonicsltd.co.uk)
- 20<sup>th</sup> April - **Mobility Scoring Workshop - Stranraer**. For more information contact event organiser Embryonics on 01606 854411 or email: [courses@embryonicsltd.co.uk](mailto:courses@embryonicsltd.co.uk)
- 26<sup>th</sup> - 29<sup>th</sup> April - **European Holstein and Red Holstein Conference**. Castleknock Hotel, Dublin. For more information please visit: <https://www.euholsteins.com/wp-content/uploads/2023/02/EHRC-Press-Release-090123.pdf>
- 27<sup>th</sup> April - **Safe Use of Veterinary Medicines**. On-line course. For more information contact event organiser Embryonics on 01606 854411 or email: [courses@embryonicsltd.co.uk](mailto:courses@embryonicsltd.co.uk)

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



Lorna MacPherson (Dairy Consultant)  
SAC Consulting  
Ferguson Building  
Craibstone Estate  
Aberdeen  
AB21 9YA  
Email: [lorna.macpherson@sac.co.uk](mailto:lorna.macpherson@sac.co.uk)  
Tel: 01467 530445  
Mobile: 07760 990901

© SAC Consulting 2022. SAC Consulting is a division of Scotland's Rural College (SRUC).  
Funded by the Scottish Government and EU as part of the SRDP Farm Advisory Service