Chewing the cud with Kevin Brewer

Count culture

This month's milk cheque included a very welcome additional payment of 0.3p/litre, our paltry share of a much fought over and hard won increase in UK retail prices.

Equally important is the 0.3p/litre bonus we receive, every month, for milk with a low somatic cell count (SCC). Our current average is 108,000/ml.

In the UK, anything above 200-250,000 really hits the pocket in terms of lost bonuses and once you get above 400,000, the draconian penalties can be as much as two thirds of the milk price.

This is primarily due to EU regulation which bans milk with SCC above 400,000 from human consumption. In contrast, authorities in the USA turned down proposals to impose a similar ban, but at a threshold of 750,000, suggesting that milk SCC is not a human health issue.

Some US States are taking more affirmative action.

Minnesota's current Quality Count$ campaign aims to reduce average SCC to 300,000 by the end of June. Promoted jointly by the State's department of agriculture, university and milk producers association, it appears at least partly motivated by past difficulties in signing cheese export licenses guaranteeing all milk used was below 400,000 SCC.

In other words, it is primarily market driven rather than a response to human or animal health concerns or the economic loss from sub-clinical mastitis on the farm. Recent French research, part of a national mastitis programme, suggests herd management is a significant factor that predisposes a herd to having a high or low cell count.

The study included over 500 herds, allowing stratification according to both location and cow type to eliminate any geographic, climatic and breed influences. Herds were divided into two groups, LOW and MED, according to their average SCC over the previous three years, the LOW group averaging 125,000 and the MED group 270,000.

Amazingly, some 1,055 factors were defined, of which 18 were considered to have a primary influence, 11 highly associated with the LOW group and seven highly associated with the MED group.

Key factors for low counts were: regular teat spraying; herdsman precise in his techniques; less than one person/year used in activities other than the dairy herd (the main labour focus is on the cows); teat dipping after mammary infusion at drying off; heifers kept in a pen around calving; cows yoked in locking feed barriers after milking; dry cows on low Ca diets pre-calving; heifers on dry pasture; culling of cows with damaged teats; heifers not permitted to drink from rivers; and teat ends disinfected before infusion of dry cow therapy.

The seven factors associated with the MED group were loose housing; not checking heifers for mastitis until two weeks pre-calving; no mastitis treatment when first clot seen at successive milkings; herdsman's house over 300m from cow shed; only dirty teats washed before milking; free access from pasture to cow shed in bad weather; and spring calving.

Many of these factors, positive and negative, have an obvious direct impact on cell count.

Particularly the first two, given that teat dipping or spraying has long been a primary practice for mastitis prevention, with good technique to ensure full coverage of all teats is always essential.

But some seem more related to an attitude of mind, or a 'count culture,' the factors combining to give perhaps the first real definition of that old farming cliché 'attention to detail'.

We are all familiar with the need to keep tabs on teats through hygienic routines using quality products such as Agrisept, but this latest research suggests successful mastitis control and the production of high quality milk, is a much wider management issue. ■

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Water feature

Back in my college days in Aberystwyth, I remember a lecturer suggesting milk producers were getting a reasonable price for a product that is 87% water, but performing poorly compared to brewers, as beer is 95% water.

Enter the supermarket today and you can see bottles of 100% water selling at prices higher than both milk and beer.

There is ever increasing focus on dairy cow nutrition as producers seek to meet and balance the dietary requirements of high performance cows, but consideration of what they get to drink is all too often neglected. One of the quickest ways to decrease milk production is to limit the water supply, whether through volume, access or contamination.

A survey of UK dairy farms conducted by the Kingshay Trust found close correlation between water use and total milk output, each litre of milk produced requiring 5.3 litres of water.

Over 80% of this water was drunk by the cows, so if your system is unable to provide at least four times the daily litreage of milk in your bulk tank, there is every chance that both herd output and individual peak yields are being held back.

Up to 30% of daily liquid needs can come from the moisture content of food, but even a mid-lactation cow, producing just 25 litres of milk, will still drink between 70 and 120 litres of water a day, varying with temperature and humidity, whether grazing or housed and, particularly, the dry matter content of the ration.

Where water is a limiting factor, there is a further penalty from reduced dry matter intake as thirsty cows eat less too.

Try eating dry bread without a cup of tea or a bowl of cornflakes without milk and you will understand why.

Cows spend less than 10 minutes a day drinking, but can consume up to 25 litres/minute and although they may make several visits to troughs through the day, main consumption by choice is immediately or soon after milking, especially in the evening and particularly if concentrates are fed in the parlour.

To ensure sufficient space for at least 10% of the herd to drink at any one time, multiply the number of cows by 0.045 to calculate trough length in metres, thus a 100 cow herd requires a minimum 4.5m of trough.

Flow rate is equally important with peak demand from a 100 cow herd typically around 0.8 litres per second, so where water pressure is low, compensate with wide bore pipes, header tanks or additional trough space.

At pasture, aim for a maximum 250m distance to the nearest water, but in housing, site troughs away from both cubicles, to avoid wet bedding and free access minerals or salt blocks, to avoid over ingestion.

Troughs should ideally be a little less than 1m high with the water level 5cm from the top for minimum contamination and maximum cow comfort.

Contaminated water can lead to E. coli infections and increased mastitis as well as diseases such as leptospirosis and Johne's, so troughs should be regularly cleaned. This is assisted by the new design tipping troughs, but be aware these hold less water than traditional deep troughs and require a higher flow rate.

An annual water quality test will help ensure good palatability for maximum intake, identify biological contamination and avoid long term build-up of mineral problems. Water with high levels of inorganic cations (calcium, magnesium, sodium and potassium), anions (chloride, sulphate, carbonate, bicarbonate and nitrate) or metal ions, may affect the mineral balance of the cow and can be toxic.

Correct acid or alkali water to a pH of 6.5-8.0 and apply filters where total dissolved solids exceed 2,000ppm, heavy metals are a problem or high nitrates (above 100ppm) may be affecting fertility. In short, aim for water you would be happy to drink yourself. ■

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Happy returns

Silage quality has a major impact on farm profitability, yet many management decisions are based on cost and cashflow rather than sound scientific evidence and proven returns.

If the silage produced is poor quality the result may be a double blow to farmers' pockets with reduced output and increased spending on purchased feeds.

Rapid and complete domination of silage fermentation by lactic acid producing bacteria is the route to quality forage with maximum preservation of nutrients.

Lactic acid bacteria are naturally present on fresh crops and in the right conditions it is possible to make good silage without the use of an additive, but as their numbers are often low and the strains far from ideal for silage fermentation, it is more reliable to use an inoculant.

These apply large numbers of specially selected strains of bacteria sufficient to dominate the natural population and drive a rapid fermentation. But not all inoculants are equally good at doing this as they contain different numbers and types of lactic acid bacteria, not only different species, but also different strains of a single species.

Most, such as Lactobacillus plantarum, are homofermentative, producing only lactic acid during fermentation, so the pH falls rapidly and fermentation losses are minimal. Others, such as Lactobacillus buchneri, are heterofermentative, producing other acids too, such as acetic acid.

These other acids are weaker so the pH falls more slowly and their production results in higher fermentation losses. This is why most inoculants contain L. plantarum, it has been found to be the single most effective species for silage fermentation.

But there are many different strains of L. plantarum, each with its own characteristics; just as all cows are members of the species Bos taurus, but there are many different breeds. Most strains of L. plantarum cannot begin working until the pH in the silage has already fallen to under pH 5 so other helper lactic acid bacteria that work better at higher pH are included to start the fermentation.

This is why there are so many inoculants containing a mixture of L. plantarum and other bacteria such as Pediococcus pentosaceus. The problem with this approach is that while all of the bacteria work some of the time and some of the bacteria work all of the time, they do not all work all of the time.

There are L. plantarum strains that are much more effective and trials with the strain MTD/1 show rapid and complete domination of silage fermentation, with MTD/1 accounting for 100% of the total lactic acid bacteria in the silage within 24 hours, completely blocking the development of other LAB that might otherwise reduce the efficiency of fermentation. This fast and total domination is achieved due to the unique properties of this elite strain, combined with the large numbers of highly viable bacteria applied by MTD/1 inoculants.

Perhaps its strangest attribute is its rare ability to grow at high pH so that it multiplies rapidly as soon as it is applied and is active right across the fermentation, from the initial pH of the fresh crop (pH 6.5) to the acid preserved silage (pH<4).

The bacteria is also extremely osmotolerant, allowing it to work in both low and high dry matter situations and remains effective across a wider temperature range than many other micro-organisms. Most importantly, it is a highly efficient lactic acid producer.

With more independent trials evidence to support it than any other inoculant, treatment of silage with MTD/1 has been shown on average to result in 5% higher DM intake, 3 unit increase in digestibility, up to 42% higher true protein, 10.5% higher beef weight gain, 1.2 litres more milk per cow per day and most importantly, a return on investment of at least 4:1. ■

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Quota unquota

In the last seven years milk production has risen by around 10% in the USA to top 77.5m tonnes and by almost 25% in Australia and New Zealand combined, to exceed 25m tonnes. By contrast, quota capped production by the EU-15 has remained more or less static at 115m.

Absorption of the 10 accession countries into the EU quota system, while increasing the total milk pool, is intended to maintain the production cap, but there are signs of upward pressure.

Despite some initial problems in obtaining production data in the new member states, total EU milk production is estimated to be currently running around 1.2% ahead, Poland leading the charge with an 11% rise over the same time last year.

This growth is not reflected in the UK, where milk production over the first four months of the quota year is over 100m litres down on 2004/5 and over 200m litres below the three year average.

It is widely expected that the UK will fail to fill its quota this year and with producers quitting at a rate of around 100 per month, there is speculation it may not do so again this decade.

One result is a collapse in milk quota values, currently trading at less than 5p per litre, the lowest price I can remember since quotas were introduced in 1984. Previously, UK quota has generally traded between 20 and 30p and one year topped 80p per litre.

There is great variation in the milk quota trade across Europe however, with some countries like France preventing the development of an open market and others such as the Netherlands, seeing excessively high prices due to more buyers than sellers.

Currently, against the EU principles of free trade across the region, the designated quota for each member state is ring-fenced within its borders and no import or export of milk quota is permitted.

Pressure for these restrictions to be lifted has been building for some time, driven primarily by quota trading companies, but also from producer groups in the Netherlands attracted by prices in neighbouring states up to 20 times lower than in their home market.

To date, such demands have been met by a clear 'NON' from politicians and bureaucrats keen to prevent a further concentration of quota in the major producing states and likely demise of dairy farming in marginal areas such as Greece.

I recently raised these issues in a conversation with the UK's leading dairy journalists over tea and biscuits at a Whitehall hotel.

During the informal debate, one editor staunchly opposed the idea of cross-border quota trading, fearing an exodus of cheap quota across the water to mainland Europe, with catastrophic results for the UK dairy industry.

Some confidence was expressed that politicians would not allow this to happen. An alternative argument also arose, however.

The seemingly unstoppable train of globalisation has, in the last few weeks, seen both the EU and USA put its previously sacrosanct farm subsidies on the WTO negotiating table.

An open Europe, accessible to low cost producers in both Asia and South America, would drive milk prices below the sustainable threshold for the vast majority of Europe's dairy farms.

Proof positive provided by the recent impact of cheap imported Brazilian beef on UK cattle prices.

If the EU dairy industry faces a future in which it will have to compete with the likes of China, India and Brazil in a free global market, surely it makes sense to allow European milk production to consolidate into the regions with the lowest production costs?

At home in Wales, British Summer Time has ended, we have put our clocks back an hour and must get used to milking in the dark. ■

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Threepenny Forcast

It is 35 years since the threepenny piece, or thrupenny bit as it was more popularly known, disappeared from UK currency.

Although the 12 sided nickel-brass coin is no more, it still survives in language, as a disparaging term for something or someone of little worth. I guess the US equivalent is 'not worth a dime,' except perhaps in Pennsylvania where back in 1849 there was a law offering threepence a head for every squirrel destroyed.

As usual at the start of the year, I have been making various presentations on the current state of the dairy industry and expectations for the 12 months ahead. In general I find many headlines in the farming press are provided by companies or organisations propagating a particular agenda, not necessarily an accurate reflection of the state of play, so in my reports I try to destroy a few of those 'squirrels' along the way. I contend that for many milk producers the year just ended has not been so bad, and prospects for the year ahead are more positive, than the picture painted in some quarters.

It is a reasonable argument that the worth of any forecast is never known at the time, but only becomes apparent once the period has expired and its accuracy revealed. By that definition any current forecast is of limited value, one reason for my threepenny description. The other is that there is such a multitude of interrelating factors that impact on farmgate milk prices, there are at least as many sides to the story as there are on a thrupenny bit. Making it almost impossible to predict which will have most influence on the direction it rolls in any particular season.

But that does not mean forecasts are worthless, much comes down to how they are constructed and used. The challenge I set myself when putting together forecasts is not to concentrate too much on predictions, but more on the questions that have to be answered in order to make them. What I look for in other people's forecasts is a raising of the issues affecting or likely to affect the market, a spotlight on the individual conflicts that will influence it this way or that and some understanding of the internal debate that has taken place in the forecaster's head to lead them to the conclusions they present. Head down, working on the farm, it is often not so much the answers that we lack, but the questions. Knowing which questions to apply to our businesses is of more use in making management and investment decisions than a set of forecasts that are likely to be at least half wrong and, even when right, may not apply to the individual circumstances of a particular farm.

Before considering what the future might hold, my first step is always to look back at what has just happened on my own farm and compare this with the national and international picture. I then dig out my previous forecasts and review what I got right, where I was wrong and what I didn't see coming at all. To date they have been sufficiently correct to allow me to use them as a base from which to build the future instalment, always aiming to keep my feet firmly implanted in the muddy wellies of my day-to-day practical experience. Sometimes I am accused of being too optimistic, but hey, I'm a dairy farmer and if I didn't take a positive view would we still be milking cows?

For 2005, our cash-in-hand milk price was 17.5p/litre, one percent up on the 17.4p we averaged in 2004. It was not a simple price increase, we gained some by raising volume and milk solids and lost some to a compulsory 0.5p/litre capital deduction, but an increase nonetheless. A very different scenario from plummeting prices many predicted for the UK in the light of Europe's ongoing Agenda 2000 reforms. The next price support cut is due in July and the fifth and final cut of the current programme in 2007. Strong commercial interests are intent on forcing farm prices down to 15p/litre by then, but if you want my thrupennyworth, I still see a white future. ■

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Playing uphill

In my youth, one responsibility as captain of the rugby team was deciding which way to kick. Unless a strong wind was blowing in the opposite direction, I always chose to play uphill in the first half, so the slope would be to our advantage later in the game when everyone was tired. There are few level playing fields in Wales!

Central to the ethos of European integration is the principle of equality, the idea of a free trade area with equal market access and opportunity, uniformity of regulation and removal of trade distorting subsidies – a common market.

Over the years, most squabbles within the EU have concerned the reluctance of various members to adhere to this principle, often seeking to protect or advantage one localised group over competing producers in the rest of Europe. A recently outlawed heating subsidy to German glasshouse growers being a typical example.

On the global stage of course, Europe is famed for its protectionism. The EU model, very similar to the USA, operating a free internal market insulated from the rest of the world by high trade barriers at its borders that ensure any produce entering from outside arrives at a similar price. Naturally, those outside the barriers view the massive EU and US markets with significant envy and through the WTO are gradually knocking holes in the walls.

The most effective pressure for change however, comes not from outside but from inside the EU, where consumers interpret free trade as being able to buy stuff cheaper. It is this that will ensure the barriers are breached.

Europe, recognising the inevitable, has already taken significant steps in preparation with its five year milk market reforms due to be competed within 18 months. But whatever decisions are taken at an EU level, do not expect the emergence of a level playing field for global trade.

Despite its guiding principles, the EU consistently failed to achieve this internally, even when membership was limited to just a dozen nations.

Throughout the 20 years I have been involved with the farming media the constant lament from UK producers has been the absence of a level playing field. Many farmers in the UK feel they have never had a fair deal out of Europe, believing producers in other member states get an easier ride, the only recent change in attitudes being a shift in the direction of blame, from the authorities of France and Italy to their own government in London.

Such gripes are not limited to the UK, producers in other member states also feel they are unfairly being forced to play uphill. The Dutch suffer the highest quota costs in Europe and a tight national control system on inputs and although the Italian government is heavily criticised for its failure to play the quota game, the country's farmers believe they were placed at the bottom of the steepest slope of all, right from quota kick-off.

It is a reasonable argument that such disparities were inevitable at the beginning and would be gradually evened out as integration progressed, but experience in the UK suggests the reverse. The latest EU reforms appear to be increasing the gradient not just between member states, but also between regions within states.

English farmers feel the way the new system has been applied there puts them at a distinct disadvantage to their counterparts in Wales, Scotland and Northern Ireland – a situation that looks set to progressively worsen over the next seven years.

World dairy trade will never be on a level field as producers in countries that consider a strong milk industry to be of national import, can be assured of always kicking downhill. ■

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