Lakeland-Scottish Feeds & Services Newsletter

Trying to Cut Feed Costs?

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Introduction

Order Lead times.

Order lead times are generally now longer than we are used to. This is due to several factors that are out of our control: -

- Reduced availability of shipping.
- Port congestion and capacity causing increased delays unloading.
- Reduced UK haulage due to non-returning European drivers following Brexit.
- Absence due to COVID-19
- Interrupted manufacturing due to variable raw material supply.

We suggest that for bagged product, a lead time of ten working days will generally result in a timely delivery. Many companies are able to work to five or six working days but there are a few occasions when they have struggled. Bulk feed supply is generally much better but all suppliers find it much easier if they are given plenty of notice.

There is no doubt that our industry is littered with more inequality and uncertainty than I can remember. The variation in milk prices from the various dairies is up to 8 pence per litre! That is the difference between going out of business and thriving with the confidence to invest.

The recent trade deal with Australia will set up some more inequalities and has to be very questionable when it comes to the carbon footprint of any imported agricultural products let alone

the question of food production standards and their relative costs. Perhaps it will give us the moral high ground and anyone with a shred of marketing sense should capitalise on that!

Farmers are all trying to control feed costs which as we know are currently very high indeed. There are lots of reasons for this but I will not repeat what many of you already know. However, it is important to have a look at the relative value of different feedstuffs in order to try and save money.

I have chosen to show a little more of our cost comparison spread sheet just to illustrate the point that if we look at all the choices on the same dry matter bases and we consider wastage and toxin issues with moist feeds the choices might be different.

The advice offered to farmers about the best way to feed close-up dry cows still seems to vary considerably between vets, nutritionists, and sales representatives. The main difference concerns how is best to avoid milk fever and how much calcium the cow is actually consuming vs. how much calcium is really needed. It all boils down to the accuracy of the management system and the level of risk of succumbing to milk fever. I have trawled the available information and tried to look at the pros and cons of the systems in use.

On another note, I thought it would be useful to have another look at the relationship of copper and the liver since we probably should manage this a lot better than we do. Leaving it up to the feed companies wont work because they never really discuss it, but a few simple steps can make a big difference to liver function efficiency. The good news is that it is definitely worth looking at because it will save money and improve health, fertility, and output!

New Edition of the F1 Dairy Blueprint

During the first COVID-19 Lockdown in spring 2020 we completed the last update to the blueprint. Since then, the scientists and researchers have been busy updating products and improving nutrition efficiency for modern dairy cows.

This edition of the blueprint has been updated again to include new work that targets better metabolic efficiency and improved health and welfare.

We all know that we have a climate change agenda that is focusing on ways of cutting our carbon emissions and ultimately our footprint on our planet. This is a worthy pursuit, but it has to be both practical and commercial. Science is helping us to improve our methods and there is no doubt that the endless data analysis is showing that we are making a difference.

To quote one of my favourite clients, “There’s got to be a profit in it and it has to be easy to do”! You can’t really argue with that. The blueprint points us in the right direction and even though many farmers do not have the systems in place to follow it to the letter, there is still much to work with and some good ideas for their own business evolution.

We have published the F 1 Dairy Blueprint on our website and we are having some hard copies printed which will be available shortly. Please get in touch if you would like one.

We would like to thank our advertisers for their input and support, These adverts are actually worth reading!

Trying To Cut Feed Costs

There are several elements to consider when cutting feed costs : -

- **Who is selling products or advising you to invest in a certain feeding system? How well qualified are they? Are they open about what’s in it for them?**

I have seen some impartial advisors work for both a fee and product sales or commission. I think that impartial should not be involved with sales because the advice may tend to be biased. If the advisor is not charging a fee for nutrition advice (like myself) then it is understood that his or her costs are being covered by the profits from product sales.

- **Can we substitute forage for concentrates?**

Many diets rely heavily on feeding bought in feeds to prop up performance. This may be to stretch the home-grown forage stocks or it might be to boost yields or, in the case of beef cattle to accelerate the growth rates.

The forage to concentrate ratio is a great guide to what’s healthy. For a good high-density diet supported by good quality forages the ratio target is around 60% Forage dry matter and 40% concentrate dry matter. The average is nearer 50% forage DM and 50% concentrate DM, but when forage quality is poor it can be as low as 40% forage DM and 60% concentrate DM.

The message here is clear and obvious, if the forages are really good quality and we have plenty of them we can save money on concentrates.

- **What is the return on investment for the concentrate?**

This question is a real “can of worms”!

Firstly, what does a tonne of concentrates produce? Its not a simple answer because the cow will prioritise the nutrients for different uses, production, pregnancy, growth, and maintenance. The animal is also only able to eat so much in a 24-hour period, so how much less of other foodstuffs will it eat if you supply an extra kilo of concentrates? This is called the substitution effect and can be responsible for diminishing the return on the investment in that extra kilo of concentrates.

- **Is the cost per megajoule or per percent of protein the only consideration?**

The short answer is no. Moist feeds for example, can be very cheap and look like really good value but they have to be stored carefully. If they start to go mouldy, they will inevitably increase the mycotoxin content of the diet and this will reduce performance by initially putting stress on the immune system. So, you will need to support the use of the (cheap) feeds with a mycobinder and suddenly the feedstuff is not so cheap.
There is also the question of how the feedstuffs are stored and handled. It is also important to buy products that will keep the diet in balance for all of the key elements, ME, CP, starch, sugar, fibre, oils and minerals. If they throw the balance out they can be more of a problem than a help.

- **How much milk or meat will a tonne of concentrates produce if we don’t allow for the substitution effect?**

There are a few ways of working this one out but here is the best of the bunch.

1000 Kg of concentrates at 87% dry matter = 870 Kg

870Kg X 13 Mj /kg DM = 11,310 Megajoules of energy.

It takes 5.2 megajoules to produce a good quality litre of milk.

So, a tonne of typical cake will produce 11310÷5.2 = **2175 litres** worth £652.50p at 30 pence per litre.

When the compounder representative says that his cake is a 0.4 kg per litre cake, he is being very optimistic! Here’s why. 0.4 kg X 0.87 Dry matter = 0.35 kg X say 13.5 MJ /kg dm = 4.73 Megajoules or enough energy for 4.73÷5.2 = 0.9 litre of milk. The cake would have to be 14.9MJ/Kg DM to truly be able to produce a litre of milk when fed at 0.4 Kilos with no substitution effect! I don’t know of a cake that good and if there is one how much more would it cost?

Having said that if a tonne of cake will produce £652.50p of milk value it’s probably still a good bet, so cutting back could be a false economy.

That tonne of concentrate can also produce a lot of growth for beef cattle. A kilo of liveweight gain costs about 34 MJ so 11310÷34 = **333Kg growth** which at say £2.20p per Kg liveweight = £732.

- **Nutrition tables**.

There are many reference publications in hard copy and on the internet that will give an evaluation of the nutrient values of virtually any feedstuff that is available to ruminants. We have just added one to our website. Branded products should have their values published by the manufacturers.

These tables will help to get a better judgement of what a product is worth and how it compares but in reality, most comparisons are done on dry matter, energy, and protein, which is a vey simple overview but for the most part it works quite well.

We have a spreadsheet that will do all the hard work on the comparisons so if you want to check anything give us a call.

Calcium Intakes for Close-Up Dry Cows

Most references available to students and farmers alike will state that close up dry cows (from 3 weeks before calving to calving; require calcium at 30 grams per day. If the veterinary profession is advising to target cows at a 30-gram inclusion, is there *any* benefit to feeding higher levels of calcium to the close-up dry cow?

The short answer is yes. When a cow is fed a low calcium diet, she is reliant on being able to mobilise the initial requirements for muscle function for the act of calving and expelling the placenta, from her body reserves alone. This can be very effective if she has good reserves. Older cows tend to have lighter skeletons and less calcium to release into the blood so they are much more susceptible to milk fever and its host of associated symptoms.
When higher levels of calcium are fed and properly balanced either by blocking or by DCAD, there is a much better availability at calving, this means less risk of milk fever and less mobilisation from body reserves with ultimately better longevity and usually more milk.

The 30-gram target is not easy to achieve, normal intakes of grass at @ 7 grams per kilo of dry matter and typical grass silage @ 5 grams per kilo of dry matter would supply 50 to 90 grams. This is a problem!

There are three options available to manage the effects of calcium content in this period.

1. Create a really low calcium diet by feeding low calcium forages like straw, whole crop or maize silage. This option will also supply calcium and may still need to be supplemented to avoid the effects of any calcium that creeps over the 30-gram target.

2. Feed calcium blockers like X-Zelit follow the link on our website.

3. Feed a DCAD diet. This option will allow the risk of milk fever by the extra calcium in the diet to be negated by managing the Cation : Anion balance into a negative charge. Follow the link on our website.

The ratios that we use and targets are all useful to know:

Calcium can be included up to 140 grams when calcium blockers are used.

Magnesium target is about 0.4 % of dietary dry matter supply per day. 35 to 55 grams.

Phosphorous target is about 0.4 % of dietary dry matter supply per day. 35 to 55 grams.

When DCAD is used, the negative charge is related to the target calcium content of the diet. I have been advised that each cow seems to have a unique response to calcium mobilisation.
The DCAD target should target about minus 100. The target range is between minus 75 and minus 125.
The calcium range is much tighter and is generally recommended at 120 grams.

Note the tolerances are quite narrow so we recommend that if you cannot be sure of accuracy the system can fail. Common issues are low intakes of the close-up dry cow TMR. Variable intakes of the anionic salts which are not very palatable, and inaccurate estimation of the potassium levels in the forages.

Monitoring Urine Ph is advisable even as a routine check. The target Ph is to target a high figure of around 7.5.
The table below is a standard reference and shows that a falling Ph at this stage of pregnancy starts to create serious issues with metabolic acidosis and kidney overload.

Table 1. Relationship of dietary DCAD, urine pH, and metabolic status of dairy cows.

Close-up ration DCAD	Urine pH of close-up dry cows	Acid-base status of close-up dry cows	Calcium status of fresh cows
Positive	8.0 to 7.0	Alkalosis	Low blood calcium
Negative	6.5 to 5.5	Mild metabolic acidosis	Normal blood calcium
Negative	Below 5.5	Kidney overload crisis	

Source: Davidson et al., 1995. Hoard's Dairyman 140:16:634.

What should we do about copper?

Liver function can be compromised by the deposit of copper in the tissues via the blood stream. This only occurs as a gradual build up over time and is a complex biochemical accumulation. Copper toxicity is complex and normally a sub-clinical condition.

Copper is required for the following functions:-

- Immune system maintenance.
- Enzyme systems
- Reproduction.
- Growth.
- Strengthening structural proteins.

Copper is an essential trace element found in all of the animal's body tissues. It has many functions but it is particularly important in the formation of red blood cells and producing crimp in wool. Other important functions include effects on reproductive efficiency, growth rate, immunity, and bone fragility.

The EU recommended maximum dietary concentration is 34 mg / kg DM. The UK recommended maximum is 20 mg/ cow /day, but the requirement is somewhere between 11 and 15mg / kg DM per cow per day.

These figures are frequently exceeded, and this has a negative effect on intakes and fertility. Copper management should start from day one of the animal's life since we often find that when heifers calve for the first time, they are already suffering the effects of sub-clinical copper overload!

Part of the problem is due to a lack of information about just how much copper the animal is consuming during the different growth and production periods of its life.

Copper audits are the answer. A simple diet check along with the relevant mineral analysis of the forages will reveal how much copper is being consumed.
The good news is that we often find that we are feeding too much so by cutting back on the supplementation we can actually save money!
So, start with the calves and work through the growth stage groups. You could be surprised at what you find out.

Mineral Markets

Shipping costs remain at a record high and availability is an issue partly due to UK port capacity and mainly due to high demand and reduced availability caused by crew shortages during the COVID-19 pandemic. Certain raw materials are problematic and worldwide demands are high. All of these factors are fuelling firm pricing and now that many of our suppliers are out of their 2020/2021 winter contracts their repricing is reflecting their increased costs.

- **Di-calcium Phosphate**. Currency sensitive with large price increases. Up by around 40% £150 to £200/t since November. This has been driven by higher phosphoric acid prices along with Sulphur and sulphuric acid price increases and an increased demand for phosphate for fertilisers.

- **Magnesium** Steady

Not much change to prices despite some evidence of increasing demand. Magnesium phosphate however has increased in price on the back of the volatility in the general phosphate markets.

- **Limestone Flour** Steady

Late lactation cows will almost always be under fed. You can feed dry cows until 3 weeks before calving! Growing and finishing beef have been shown to increase liveweight gain when deficiencies are corrected. Great supplement and pretty cheap really!

Most bespoke minerals can now have the extra limestone, magnesium, mycotoxin absorbent and even sodium bicarbonate added, meaning less bags to handle, let us know if you would like us to do this, it doesn't cost any more to do and sometimes can save money.

- **Sodium Bi-carbonate** slight increase based on distribution price rises.
- **Salt** Quiet. Himalayan Red rock salt is a still a very good buy.
- **Zinc and Copper** Both metals have increased in price as the worldwide demand grows for their use in industrial context. Electrification is behind the copper demand and increasing use of zinc coatings has driven its bullish nature.
- **Manganese** Currency sensitive
- **Cobalt** Demand for electric car batteries and currency sensitive.
- **Chelates** Also affected by increased metal prices and distribution costs. Beware the cheap substitutes.
- **Vitamin E** Relatively stable at the moment and 60% to 75% above 2019 pricing. This is another market that can be very volatile if any of the major manufactures reduce supply.
- **Iodine** Currency sensitive
- **Biotin** Much better and good value with all of the manufacturers producing enough. However, it only takes a small breakdown of hiccup in supply to set off a dramatic increase in the price.

Raw Material Markets

Shipping issues, fuel prices, increasing worldwide demand, oversubscribed port capacity, COVID-19 pandemic, international crop production and the usual issues of politics, weather and currency have all conspired to make life unpredictable and generally tricky.

The last week of June saw the soya complex about as bearish as it had been for months with ex-port prices hovering around £350 per tonne for HiPro Soya. Then the US crop report came out and revealed that plantings were about 55,000 acres down on the march report, This is still a higher figure than last year but the brokers had some fun takin profits and the prices are currently £20 per tonne up on June 30th.

Current Soya prices are hovering around £377 ex-port spot to £374 for November- April 22.

It was £303 and £306 ex-port a year ago!

Current Maize prices are also hovering around £242 ex-port spot to £210 November – April 22.

It Was £170 and £164 ex-port a year ago!

Current London Wheat Futures are around £188 ex store spot and drop to £168 November 21.

It was £160 and £167 ex store a year ago. I would imagine that as the harvest gets closer there will be some pressure on maize prices to drop much further.

The November wheat futures are interesting in that they seem to be back on track although a lot will depend on the success of this year's harvest.

The difference in value between Hi Pro Soya, IMSA Soya and Rapeseed Expeller meal is not reflected in the prices. **Why would anyone buy IMSA Soya at that money?**

This little table is simple but it shows that difference quite well! Note that whilst Rapeseed meal seems fairly cheap, Argentinian Soya (IMSA) and Low Pro (also IMSA) are more expensive than Hi-Pro Soya!

Optigen's microbial protein generation and truly available methionine content would make them all look expensive!

Current Crude Protein Cost Comparisons of some Protein Sources Ex Port

	Price £ Per Tonne	Dry Matter %	Cost per Tonne DM	Energy Mj/Kg DM	£ Cost per MJ Per tonne D M	Protein % DM	£ Cost per % CP Per tonne D M	Average £ cost per MJ & %CP /T DM
De Hulled (Hipro) Soya Ext Meal	377	89	420.22	13.8	30.45	52.53	7.12	26.26
Argentinian Soya Ext Meal	366	89	411.24	13	31.63	42.4	8.63	29.20
Lo Pro Soya Ext Meal	351	89	411.24	13	31.63	44	8.32	28.71
Soypass	595	90	688.89	13.6	50.65	48	12.92	45.35
NovaPro	315	88.5	392.09	13.1	30.39	34.83	9.96	30.64
Rapeseed Ext Meal	244	91	317.58	11.8	26.91	37	7.81	25.56
Rapeseed Exp Meal	248	89	330.34	13.2	25.03	35.4	8.31	25.39
Optigen	2000	99	2020.20	36	18.52	275	7.35	27.21
Dry Wheat Grains	252	90	280.00	14.5	19.31	34	8.24	22.42
Dry Maize Grains	261	90	290.00	15	19.33	28	10.36	25.72

Add @ £20 for on farm prices give or take! Prices on 5th July 2021

Cereal futures have firmed by around £20 per tonne in the last 5 weeks. This is quite unusual for this time of year because normally as harvests approach in the summer many stores try to run down stocks to make space for the new seasons crop and the prices drop. There is still time for the seasonal price drop to kick in.

Good buys still include Pea & Bean meal, and Molasses, which looked fairly pricey until everything else caught up and overtook it. **Molasses** is both sustainable and reliable when compared to most other liquid feeds. In our view there is no better way of encouraging intakes of buffer feeds than to add some molasses. Molasses will also improve the fermentation of the rest of the feedstuffs in the rumen by aiding the growth of cellulolytic and proteolytic bacteria.

Bullet Points

- Check out our website for **F1 Ice Gold** state of the art maize silage and wholecrop additive to give great results by dominating preservation and dropping temperature fast. www.lakescot.co.uk/f1-ice-gold/

- With mineral prices on the rise, we are encouraging our clients to book some orders for July to September sooner rather than later. It's just a risk reduction strategy in case things kick off again. We offer a great bespoke and standard design mineral supplements available in the UK just now. We are using new computer formulation models in conjunction with our suppliers to offer the best availability of trace elements at the most competitive rate. The latest **F1 TMR Dairy 21** is one of the best dairy minerals available anywhere for the money!

- It's worth repeating that you could out our website for rumen buffers for more on dealing with acidosis www.lakescot.co.uk/rumenbuffers/ The dividends for good buffering are always better rumen function and better milk and milk quality output.

- Early warning. We will be working on a sales campaign for our new Britannia Calf Milk Replacer range. There have been some exiting product additions and we are very actively working with Trouw Nutrition on their progressive Life Start development program. I will keep you up to date with all of this as we make progress but now is a good time to get on board because the next steps will give us a major step forward in foundation nutrition for a more productive life.

- **F1 Yeast** has new EFSA proofs to show its superiority to other strains. We will also be promoting F1 yeast over the next few weeks because the approval now places this product as the top choice of any yeast supplement in the UK as we go to press.
  The web link is as follows: - www.lakescot.co.uk/f1yeast/

For more information on any of the items mentioned in this newsletter please get in touch with Jerry or Richard.
Our phone numbers are always available during normal working hours.
You can also email Jerry or visit the Lakeland-Scottish website.

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