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Introduction

Lakeland-Scottish Feeds & Services has just entered its 23rd year of trading. On reflection, I can say that it is not much like the business that we started or that we envisioned 22 years ago! We are about to enter new territory again and this time it is all about a more competitive world in a much harder business environment.

Brexit and low farm prices have unsettled all the farm businesses that we deal with. Most farmers instinctively look at ways of reducing costs as a response to the challenges to their cash flow and profitability.

There is no doubt that current low market prices for milk and meat are the main cause for concern and it is only to be expected that we try to save money by cutting back, but...and it is a big BUT, does this mean we are going to make better profits and have a better cash flow?

What is the best way of doing this? Is short term gain really a longer term loss? How should we react to this stress on the business?

Lakeland-Scottish and TBA have looked at this and come to the broad conclusion that the best strategy is as follows,

- The exchange rates have had major effects on imported commodities like skimmed milk powder, fat and molasses. These products have already risen in price and won't drop until next spring at the earliest since the stocks have already been covered at a high price.
- Fixing prices on any imported product may be a good strategy but bulk commodities like soya meal could crash if we get a Brexit deal and exchange rates recover.
- Make sure that you review your choice of molasses blend.

- Use home produced feeds where possible.
- Balance the forages. We can help you avoid unnecessary cost by using our modern nutrition software to more accurately calculate the diet
- Relevant promotion products can be a great opportunity to buy at low cost.
- Look at substitution at lower cost only when the new products are good value for money.
- Keep an eye on the media, this is a very rapidly moving political situation with many possibilities that will probably change the fortunes of all of us in this industry.

We feel that we have the best portfolio of products for the challenge and we have adapted some to fit the current demand for lower costs. We also offer bespoke products when needed. Unlike most of our competitors we are quick on our feet and better placed to help you with what you need to change.

My son Richard re-joined Lakeland-Scottish full time after a gap of six years, at the end of September. He's office based and apart from the day to day administration he will take on the roll of IT development manager. We may also let him out sometimes to help you with your IT issues if needed.

Diary

The next three months are indeed action packed. I guess that issues connected to Brexit will continue to complicate our planning, so it's very much a case of watch this space.

Calf Milk Replacers

The quality and performance of calf milk replacers (CMR) took a massive step forward when Trouw Nutrition launched ECM and we launched Britannia last autumn. This has indeed been a progressive change for the best, but it was not for everyone.

Some farmers were put off by the price and others found that it wasn't right for their system, notably once a day feeding and some machines.

Lakeland Scottish Feeds & Services have been working with Trouw Nutrition to develop a CMR that will fit this part of the market whilst retaining a better performance than the old fashioned high protein, low fat products that are still being offered today.

Reashure

I included this in the last newsletter so why include it again?

New trials have further endorsed a great payback when using this product at the right rate and frankly, we would be pretty useless if we didn't at least try and make you aware of it.

GlycoPass

I came across this product at the South West Dairy Show at Shepton Mallet.

Farmgate Nutrition have grown quite a market for this product in Northern Ireland and having spoken to a couple of west country farmers who are using it very successfully, I think we should add it to our own portfolio.

F 1 Viking

This is our exciting new molasses blend. We have designed it to do the job at low cost. This will upset a few people but hey, what the heck!

Markets

The market prices for both mineral and feed commodities are without doubt a labyrinth of issues revolving around Brexit, currency, politics and availability. I have just concentrated on what we know rather than any speculation because all the brokers are keeping their shirts on their backs for now! Ask us about mineral pricing, we are currently very competitive

Diary

Wednesday October 30th
South West Scotland Dairy Show
Wallets Auction Market
Castle Douglas
7:00pm

Wednesday November 20th
AgriScot
Ingliston Edinburgh
9:00am to 5:00pm

Friday December 6th
Last day for pre-Christmas delivery orders.

Richard's Back.

Richard's return to the business is an exciting development which aims to bring the company up to date with the electronic communications that have become an increasingly important aspect of modern business today



Some of you will have come across my son Richard before, he worked for me full time and left to join an IT company in Carlisle for the last 6 years where he was in charge of web development, e-commerce, graphic design and all technical issue management. This is a skill set that we can use to bring our business up to date with much better media communication and e-commerce along with all the office admin that he did before.

Rick has a meticulous approach to whatever he is working on, and this always produces a great result. I am looking forward to seeing a much improved and vibrant website which we will keep updating on a weekly basis.

The new site is not live yet, but we are hoping to have something we can switch on before December

in order to help us with the run up to Christmas and the new year.

In my view, it is a myth that electronic communication can save time, if anything, it increases output, which is great, but necessitates extra time to deal with it!

I am also nervous of the fact that it is a remote form of contact. I much prefer the face to face approach, but there is no denying that it is a great way to supply information quickly and easily to a mass audience.

I have never stood in the way of progress so I am very happy to see what Richard can achieve with this approach.

Optomega Plus, it's a game changer!

Note: we are featured as part of the article in October's British Dairying on Pages 48 and 49.

I think that it will only be a matter of time before the ruminant feed industry catches on. Please remember where you heard it first and be assured that we will stay way ahead of the mass marketers when it comes to the evolution of this type of product technology.

Our interest in this product continues to grow and there are indeed many positive effects of including essential fatty acids in the diet of moderate to high output animals. The obvious justification for doing this is simply in that word ESSENTIAL, for that is indeed what they appear to be,

The improvement in membrane health occurs right through the whole body, so whilst improved fertility effects are the main headline, it is becoming very obvious that some of the other benefits are of great importance and the big one of increased milk production looks very probable when we consider our experience so far and the trial featured below:

ENHANCED MAMMARY DEVELOPMENT IN DAIRY COWS USING OPTOMEGA SUMMARY

Optomega is a high quality, concentrated EPA and DHA product produced from sustainable fish oils.

When included in dairy cow rations, Optomega Plus can positively alter mammary gland tissue development, allowing for greater milk yields to be achieved.

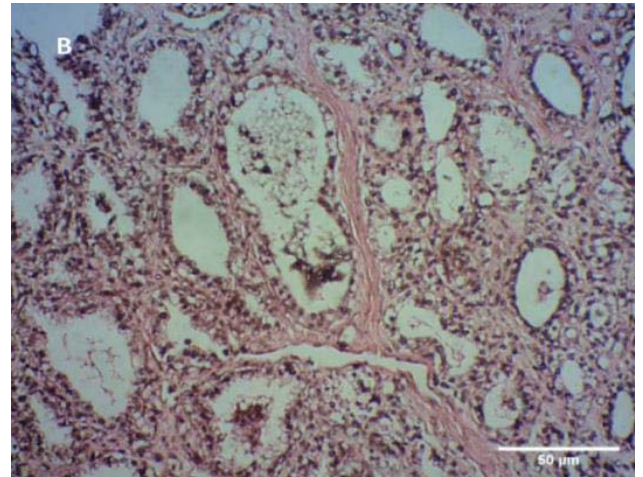
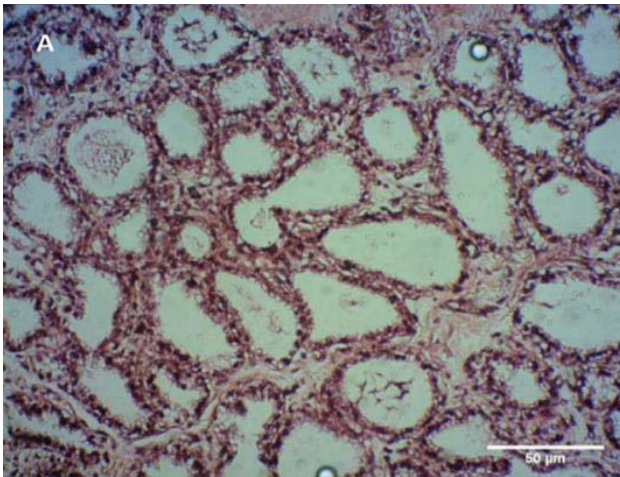
BACKGROUND

Milk production in dairy cows is affected by many factors, with the development of the mammary gland being a key component of this.

There are two main types of tissue in the mammary tissue – epithelial and stromal cells. The latter provide structure and nutrients, whilst the former produce the alveoli that secrete milk.

TRIAL DESIGN

A trial was carried out at the University of Tehran, Iran, to assess the efficacy of Optomega, a source of EPA and DHA, on dairy cow mammary gland development and milk production. 10 multiparous Holstein dairy cows were randomly allocated to one of the two treatments (palm oil or fish oil supplied as Optomega) beginning 42 days prior to expected calving date, until 63 days in milk. Milk fatty acids content was determined on days 7 and 63 of lactation as well as samples of mammary tissue taken by a biopsy gun. Milk yield was measured each day and milk quality was considered weekly.



(A) (B)

Fig 1. Mammary tissue of dairy cows fed Optomega (A) or Palm oil (B) (From: Barfourooshi et al., 2018, *Ann. Anim. Sci* 18 (4):973)

RESULTS

Including Optomega in dairy rations in the place of palm oil:

Significantly increased milk yield from 6 weeks of lactation.

Elevated unsaturated fat and DHA content in the milk whilst reduced the n6:n3 ratio, providing consumer benefits.

Significantly increased the proportion of epithelial cells in the mammary tissue whilst lowering stromal number, which may help to improve milk production capacity in Optomega fed cows.

Increased total alveoli number with improved consistency of size, suggesting a greater capacity to secrete milk.

Therefore, including Optomega in the diet of dairy cows both pre- and post-calving can help increase milk yield. Trials are showing highly significant improvements in pregnancy rates.

On Farm Evaluation - Scotland

Spring/Summer 2018, SW Scotland

- From 9th March through 7th June
- Cows housed all year round
- Fed TMR
- RUFAL <3.0%DMI

Cows Fed 120g Optomega Plus

- Replacing 500g Megalac

Compared to cows inseminated in the previous 3 months

- 1st-4th services

Overall 6.6% improvement in conception rate

- **Over the 1st 4 services (37.5% vs. 30.9%)**

21.5% increase in the relative risk of a cow becoming pregnant

No effect on milk yield or milk quality.

The fact that the yield did not drop, lends weight to the effect that the EHA & DHA have on stimulating the mammary tissue development and the anti-inflammatory properties of the higher quality fish oil being used.

Three new calf milk replacers



Introducing Britannia to the market has in many ways been a learning experience. One fact that has emerged is that products with identical analysis can be very different in the result they produce!

Britannia has produced fantastic results with clients who are feeding twice a day. Farmers who use machines have reported that as the calves get older some of the more greedy ones can set back. Recently two calves that have been subject to a post mortem have revealed undigested milk in the hind gut. This is due to frequent feeds of large quantities of calf milk replacer. We would suggest that large calves are restricted to a maximum of four feeds a day through machines, which should be restricted to a maximum of eight litres mixed at the recommended rate.

We have outlined below three new products, all of which should solve this problem without having to change routine.

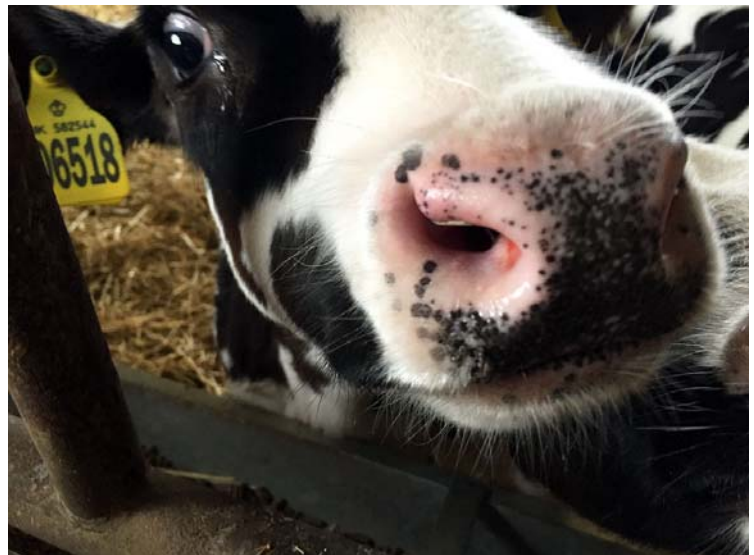
As the use of Britannia has evolved we are also noticing that some farmers have adapted its use to give better results. One very successful change is to mix 125g into 0.9 litres of water at 40°C, instead of 135g. This effectively improves drinking rates and increases dry feed intakes. It also reduces the cost.

As many of you will already know Trouw Nutrition along with every other manufacturer of calf milk replacers (CMR's) have had to pay more for their core Skimmed milk powder and whey ingredients. All ECM prices have just increased by £80.00p per tonne! Whilst this may change after the Brexit votes, we can't see the UK pricing altering this side of 2020.

We have introduced two new versions of **Britannia**, **Britannia 30** and **Britannia Whey**

We have also decided to offer a high quality whey based CMR named **Synchro Red**.

Britannia is an extraordinary product, following a very successful launch last autumn and a general feedback that confirms its ability to grow calves better than most other calf milk replacers on



the market, Lakeland-Scottish and TBA are progressing and now Britannia has moved on! We always said that this version of ECM had a bit more going for it than some of the others. The Patriot health pack has been enhanced further which takes the product further in to innovation.

Recent work by Trouw Nutrition and Nutreco in Holland has highlighted the gene sequence changes that occur significantly in the first 50 days of life.

The importance of baby calf nutrition in this early stage should not therefore be under-estimated. Put simply, if the animal is born into a life of hardship, the gene sequences adjust to prepare the animal for a hard life and consequently it will reduce its potential for production.

On the other hand, if the animal is born into a life of plenty, the gene expression is improved in favour of a more productive life.

This evidence supports the high plane of nutrition approach, and it has been shown that provided the rest of the heifer rearing program focuses on health and achieving growth targets; these animals produce more milk, get back into calf sooner and live longer than their less fortunate cousins reared on our current lower input systems.

There is no doubt that investment in the high plane of nutrition will pay dividends in the productive life of the heifer and in reducing the cost of poor health during the growing stages.

If you haven't tried it please give me a call, it's a genuine game changer!

We have extended the **Britannia** range to include two new products.

1. **Britannia 30.**

A lower priced 30% skimmed milk powder version of **Britannia**. This product has 22% oil and 20% protein which will retain the balance of energy and protein of **Britannia** and of whole milk.

We have also included the Patriot performance pack which is unique to Lakeland-Scottish and TBA.

It is manufactured using the same technology as **Britannia** and represents a great choice of product for those who wanted a better flow product for machines, and those who want to stick to a high quality, high performance product like **Britannia** but at a lower price.

2. **Britannia Whey.**

A very good quality whey based version of **Britannia**. This product has 22% oil and 20% protein which will retain the balance of energy and protein of whole milk.

All of the whey we use has a very low salt content. This helps the osmolality of the product and reduces nutritional scour issues.

We have also included the Patriot performance pack in the formulation.

Britannia Whey is a real step change in whey based powders in that it offers a natural fat to protein balance.

As you would expect this is the lowest priced product in the range, but don't be fooled, the quality of this product is exceptional. We have also designed this product for machine use.

3. **Synchro Red**

Not really a **Britannia** profile product but we felt we needed this product to fill a gap in the market.

A lower priced 40% skimmed milk powder version using the same technology **Synchro Red** will run through some machines a little better than **Britannia**. The current pilot product reverts to a 23% protein and 18% oil analysis but this belies the superior performance to similar products due to the quality of the ingredients, the Patriot performance pack and the

technology used to manufacture the product

My associates working for TBA in the south of England, are selling good volumes of this product, and the feed back we are getting is very positive.

We can also offer a low salt, Whey powder-based product which will reflect the more traditional higher protein lower fat milk supplements. We have not promoted this version since although very competitive in its price and much better than most other products in its class, we know that our other products will offer a better performance.

Most Whey consists of Lactoglobulins, Lactalbumins, Serum Albumins and Immunoglobulins, Lactose, added salt (which aggravates scour) and minerals. Notably whey does not contain the casein protein which is retained in the cheese from which the whey is a by-product.

Whilst we strongly advise that the best calf performance depends on feeding a high volume, high quality protocol because this approach will always produce better, stronger, well foundationed calves, we recognise that there are still many producers in the market place that just want something low cost that will allow calves to wean onto dry calf creep in good order. Whey based powders can work well but are infinitely more sensitive to failure than high quality skim milk based products.

Beta Carotene (β Carotene)

β Carotene is an antioxidant that converts to vitamin A.

In fact, vitamin A must be converted to β Carotene to be absorbed!

β Carotene is relatively stable in the rumen at around 89%.

Current interest revolves around its ability to aid the quality of oocytes by impacting positively on negative energy balance (NEB) and high non esterified free fatty acids (NEEFA'S).

Current research has shown that β Carotene directly impacts the viability of the growing embryo.

It looks like β Carotene is the most effective antioxidant involved in the success of a conception and subsequent pregnancy.

This does not mean that vitamin E is not important, just that we should not ignore that dry cow and fresher's need for β Carotene.

A farm pack is now available.

Cost @20p for 21 + 21 Days = £8.40 per head.

ReaShure

ReaShure is a cleverly protected source of choline.

The sequence below shows how it works. It's a pretty complicated biochemistry and the point of showing it here is just to endorse the real justification for using it.

The second list is probably a better one to summarise its justification!

1. At calving hormonal changes trigger an intense period of fat mobilization from body stores to meet the increased energy demand for milk production.

2. Hormones stimulate the hydrolysis of triglycerides (fat) into glycerol and fatty acids, commonly referred to as NEFA's
3. Blood NEFA concentrations surge and fatty acid uptake by the liver may increase by 10 to 15 fold!
4. The liver's first priority is to oxidise NEFA completely to obtain energy for cell function.
5. NEFA that is not used by the liver cells for energy would be converted to triglyceride and joined to protein, cholesterol, cholesterol esters and phosphatidylcholine to form the very low density lipoproteins (VLDL). VLDL can then be exported to other tissues in the body to provide energy for important metabolic functions like lactation and the precursors for the synthesis of milk fat.
6. Without adequate choline in the diet the liver cannot package and export NEFA's. This excess fat is then stored in the liver or converted to Ketone bodies. This leads to Ketosis, reduced feed intake lower milk yield, excess ammonia in the bloodstream and reduced milk lactose production.

By now most of you will have come across choline and its ability to clear the liver of fat. Choline is essential for effective fat transport out of the liver.

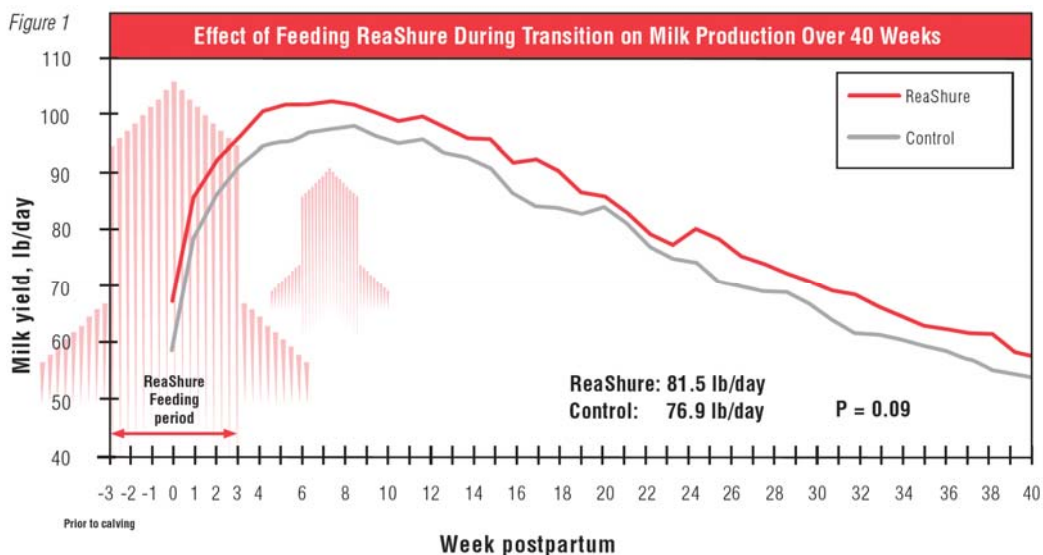
The cows' liver uses choline to package the fat into very low density lipoproteins (VLDL) which are then transported to the mammary gland where they are used as a fuel source for synthesizing milk and milk fat.

There are lots of benefits to this, all of which will help to reduce the costs of treating metabolic related diseases.

- Reduced risk of ketosis
- Reduced risk of metritis
- Reduced risk of displaced abomasum
- Reduced risk of mastitis
- Faster and more productive start to the lactation
- More milk (14 university trials showed an average increase of 2.2 litres per day!)
- Better fertility
- Improved milk quality
- Better growth rates for beef cattle.

I have highlighted the faster and more productive start to the lactation because I am aware that this is a key issue for many dairy farmers currently. And you get more milk!

ReaShure is available as a farm Pack fed at 60 grams per head per day 21 days before calving and or 21 days after calving.



GlycoPass

Another new tool.
(This time from Northern Ireland)

The successful introduction of this product as an energy supplement to fresh cows has resulted in some great testimonials from dairy farmers in Northern Ireland.

GlycoPass is a source of rumen protected glycerine. When added to the diets of dairy cows and beef cattle, it increases the blood glucose levels, improving herd performance and daily liveweight gain.

Dairy Cow benefits.

- Better conception rates.
- Increased dry matter intakes
- Increased yield and milk components

Beef Cattle benefits

- Increased dry matter intakes
- Improved daily liveweight gain

Feeding GlycoPass in the ration will promote blood glucose levels increasing herd fertility and overall herd health due to the animal having an improved immune system without impacting on milk production.

Focusing on glucose supply in early lactation will reduce the issues arising from negative energy balance and help with immune challenges post calving

Inspired by the work done by Professor Phil Garnsworthy at Nottingham University, this product does indeed support a fertility response by reducing the time that the fresh cow experiences a negative energy gap. Glycol has a very simple molecular structure compared to fat molecular chains. It readily converts to glucose in the liver and therefore reacts more rapidly to the cows initial demand for energy.

F1 Elevator liquid works in the same way and will be more palatable due to its spicing but if a powder is preferred this rumen protected form is a great addition to the feed shed.

This dry powder comes in 1 tonne lots packed into 25 Kg bags



Low farm prices. What should we change?

I have thought long and hard about this question and I have spoken to farmers scientists and trade alike.

A few weeks ago one of my clients (who will no doubt recognise this stream) said to me that each successive generation of animals whilst improving their genetic potential for output, will also genetically improve their feed efficiency!

I have asked the American Zinpro pool of wise men from the research and university field and also some of the breed companies for their reaction to this.

They have nearly all been able to demonstrate that in the case of ruminants it is extremely unlikely that we can get an improvement in food conversion efficiency like this.

However there is one study by Fuyong Li, Changxi Li, Yanhong Chen, Junhong Liu, Chunyan Zhang, Barry Irving, Carolyn Fitzsimmons, Graham Plastow and Le Luo Guan From the University of Alberta in Canada.

They completed a study looking at how host genetics influence the rumen microbiota and heritable rumen microbial features associated with feed efficiency in cattle at the university ranch.

Well I guess you could wonder at the nature of this trial but the study is extensive and examines many aspects of heritability.

The conclusions are interesting in that they report that some rumen microbial features are heritable and **could** be influenced by host genetics. This highlights a potential to manipulate and obtain a desirable and efficient rumen microbiota using genetic selection and breeding. It could be a useful strategy to further improve feed efficiency and optimise rumen fermentation through targeting cattle and their rumen microbes.

I have highlighted the word “could” because this study is the only one we could find and it is not conclusive.

I think diet, management and environment will have a far greater effect on feed efficiency than genetic heritability of the rumen microbiota.

On a more practical note

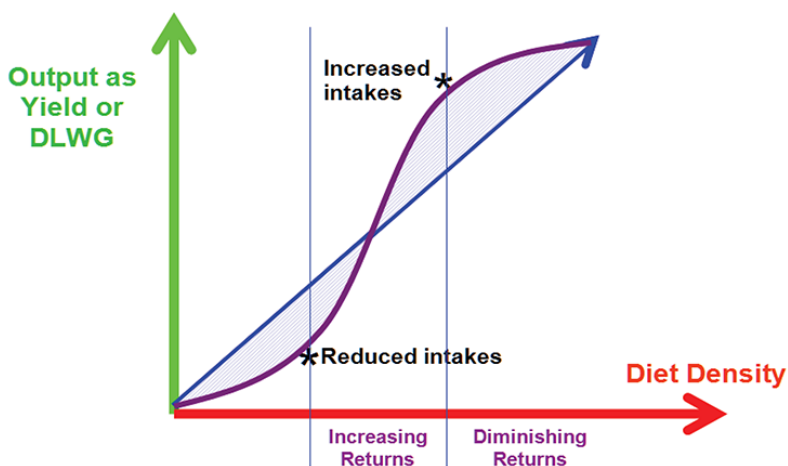
Reducing costs is always a simple option when faced with a price reduction. The simple graph below, shows that it is always worth including inputs that give you a full return on their investment. In the case of most ruminant diets it is an increasing substitution effect that minimises the return.

Put simply, If I feed an extra kilo of cake and there is no change in intake of the rest of the diet I get the maximum benefit,

If I feed an extra kilo of cake and the cow eats half a kilo dry matter equivalent less of the rest of her diet, I only get half of my expected return.

If I feed an extra kilo of cake and she eats a dry matter equivalent of 1 Kg less of the rest of her diet I have gained nothing and I am probably worse off because the cake has cost more than the kilo of the rest of her diet that I have replaced with that cake.

Profit from Optimum Output and the Law of Diminishing Returns



We get the full response to inputs in the centre area of this graph and a diminishing return at the top of the curve. When prices are high we should push towards the top of the graph where the lines join because this is where we achieve genetic potential.

When prices are low we should at least achieve the “increased intakes” point on the graph because we will be getting a full response from all of our inputs.

So, the law of diminishing returns gives us half of the answer.

The other half is to challenge the cow for a profitable response.

For example: If I feed 25 grams of that super F1 Yeast product and I get the full 1.2 litres my 7.2 pence has just turned into about 35 pence. (No Brainer as they say)!

If I am feeding that yeast to beef stores and finishers and I get the full 0.2 Kg liveweight gain, it's the same argument.

Well it's got to be worth finding out what the profit potential can be hasn't it?

F 1 Viking

F1 Viking is a new molasses blend. Just like the Viking longboats, it is reliable, efficient and built for purpose.

We felt that the value of molasses as a palatising and sugar source was too good to rule out of the diet altogether and whilst there are better specifications of molasses blends, we wanted to create a product that was the best value for money at a more palatable price.

F 1 Viking fits this role perfectly.

A typical 10 tonne delivery will be around £180 per tonne

20 tonne deliveries £174 per tonne

27 tonne deliveries £169 per tonne

(Prices subject to delivery zone haulage rates).

F 1 Viking is a 54% dry matter 46% sugar 9% protein and has 12.7 MJ/Kg DM energy.

Just for the record, some farmers have asked about the addition of molasses to TMR's and to Compact feed blend pre-mixes.

We recommend that molasses should be added to the least palatable part of the TMR. Generally this will be the straw or the whole crop and not the concentrates.

This approach will generally give the best result for intakes.

Just like those Viking longboats F 1 Viking will get the job done!

Minerals and Markets

Courtesy of Richard Keele (Feed Supplements).

The effects of the African-Swine-Fever outbreaks on the feed market are becoming more and more severe. In China half the pig population have already been slaughtered and still daily new outbreaks occur across the country. Obviously when the number of pigs are so low, the feed production and demand for additives will also halve!

In the last few weeks we did not only have new outbreaks in China, but all over the world. There were announcements of outbreaks in South-Korea, Philippines, South-Africa, Vietnam, Hongkong, Hungary, Zimbabwe, Romania, Ukraine, Russia, Myanmar, Serbia, Moldova, Bulgaria, and Slovakia.

All of this has occurred only in the last two months. The effects can be disastrous.

Feed Phosphates

Both dicalcium phosphate and monocalcium phosphate prices have all remained weak throughout the last 3 months, due to a combination of currency exchange rates but the price for phosphoric acid (a key raw material for the manufacture of feed phosphates) has fallen just recently with supply being better than the last Qtr. across the EU.

Phosphorus remains relatively "good value" though when reviewing phosphorus requirements, be careful of shortage in late lactation cows and dry cows. High maize silage-based diets will contain a high level of background phosphorus when RMs such as soya and rape meal are fed.

Magnesium

The prices of magnesium based raw materials have stabilized slightly going into Qtr4 2019.

Beware of high potash/potassium (K) levels (slurry/fertiliser) within winter grass silage diets. This may impact primarily on dry cows in terms of lower magnesium absorption as the cow approaches calving.

Excess potassium will cause milk fever if not addressed correctly.

Always remember to remove all magnesium from intensive bull beef and intensive lamb feeding systems.

Keynote – potassium levels are reporting at a 10 year high currently within this season grass silage samples.

Feed Grade Urea

Prices are weak currently.

Feed grade urea is commonly used in mineralised protein concentrate products, and as a cost-effective source of RDP protein in TMR diets containing maize silage and straw.

Grass silage is generally a good source of RDP so low demand on grass silage-based feeding systems, but demand will remain high in maize silage/whole crop fed systems.

There is also a good demand for Feed grade urea within housed intensive beef systems.

Feed grade urea is a cost-effective source of RDP in diets. Currently well priced per % of protein compared to other protein sources offering good value to livestock producers.

Limestone Flour

A good source of calcium for lactating dairy cows. Do not feed to dry cows. Helps promote skeletal development in youngstock feeding systems. Helps promote DLWG on intensive bull beef systems.

Most maize silage/straw/cereal based diets are short of calcium.

Prices are currently stable.

Ammonium Chloride

Used primarily in intensive lamb and intensive beef minerals to help prevent urinary calculi. Also, commonly used in anionic salt based DCAB dry cow mineral supplements where a partial DCAB approach is required to optimise performance post calving.

Prices can vary but the current market is quiet.

Trace Elements and Vitamins

The trace element market remains quiet with very little volatility apart from iodine sources which have risen considerably in price.

We have seen some slight price weakening on copper sources in recent weeks.

Other trace elements show very little change.

Vitamin RM Report

Vitamin A

Vitamin A has just experienced a rise in price in recent weeks. Unplanned shutdowns and less

output from Chinese producers allowing a controlled release into the market of vitamin A has enabled manufacturers/traders to somewhat control price and prevent a fall in prices to 3rd tier manufacturers.

Vitamin D3

Manufacturers have recently released additional material on to the marketplace which is now helping prices to ease back going into the winter-feeding season. Supply and availability is currently good so this extra volume will ensure prices remain weak for the next quarter hopefully?

Keynote – Good buy!! Look to review D3 levels in housed dairy cow and dry cow products. Many diets are still too low in D3 levels and only just meet NRC requirements when checked.

Vitamin E

Vitamin E prices have risen slightly but prices have been below the cost of production for months. There has been a small upward trend in price going into the next Qtr. Maize silage, straw, cereals and whole crop forages have a very poor supply of chlorophyll and vitamin E.

Keynote - Maize/whole crop/straw/ treated cereal based diets will require additional vitamin E supplementation over and above grass-based feeding systems. Look to review vitamin E levels in housed winter-feeding systems.

Biotin

Biotin remains the **BEST BUY** for winter dairy & dry cow minerals where it will be beneficial to feed biotin as part of a nutritional approach to support cows' feet during housing. It is well documented that biotin is an effective vitamin nutrient in helping cows' feet remain fit and strong when housed on concrete all winter. Prices remain very weak and the cost of biotin remains below the cost of production.

Keynote – The full technical requirement for adult dairy cows fed biotin is 20mgs/cow/day supplied from the feed rate of the mineral fed.

At the TMS conference in Manchester on November 10th 2016, **Prof John Huxley** (Nottingham University) said “**A white line lesion or a sole ulcer is a cull cow**”! Concrete and poor condition, (thin cows) are the key factors which bring about the initial damage which is based on excessive wear and tear and unforgiving hard surfaces.

F 1 Foot bath.

This product has an American style formulation based on Copper Sulphate Zinc Sulphate and Citric Acid. Citric acid is just as effective as formalin at killing surface bacteria, indeed lemon juice (rich in citric acid), is used in many countries as a quick way of cleaning around wounds and areas of skin infection.

The product includes other antibacterial agents as well as a small amount of salt to reduce the initial stinging effect of the acid salts on foot wounds.

F 1 Foot bath comes in 20Kg bags and should be mixed in to 200 litres of water to provide the right concentrations of copper and acid.

We suggest that if there is a good regular foot inspection, trimming and foot bathing routine F 1 Foot Bath will prove to be a valuable cog in the wheel of the foot management system.

If Digital Dermatitis is a particular problem the use of the F 1 Super Hoof mineral supplement will boost the animal's immune defence and greatly help the reduction in symptoms. Ask us at **AgriScot**

Feed Market Review

The markets are currently very mixed in the UK

- **Cereals.** Prices for home grown feed cereals look weak. There are several reasons for this. The wet harvest conditions resulted in a large quantity of cereals being rejected for the human food market.

This extra volume has added pressure on to the already well supplied feed stocks after a great growing season.

We are advising all of our clients to take the maximum advantage of this and feature maximum amounts of home-grown cereal in all winter rations for livestock, even if it means having to use a toxin binder.

- **Soya and other proteins.** The world soya crops are all very good this year which means that there is not so much pressure on stocks. This is a complex market influenced significantly by what the Chinese do. They are growing more of their own soya so need to import less. Donald Trump's export tariffs are having some effect on Chinese imports too. This means that world prices are not likely to get much stronger. So, it's down to brokers, weather reports, currency exchange rates and Brexit, and that is a real box of frogs!
UK rape supply is good this year on the back of a great crop, The price will follow imported rape seed meal which is primarily affected by the exchange rates.
- **Fats and Fat supplements.** Prices are now starting rise slightly. More palm oil is being used as biofuels in the far eastern countries that grow the crop. This is controversial and whilst we only use ethically sourced palm from long established plantations, that is not going to stop companies like Arla from advising that we should start to think about not using palm based fat supplements
- **F1 Superfat**
Demand for palm oil in the east for bio fuel is high which is also odd when you look at mineral oil prices which are currently bouncing around \$60 per barrel of Brent Crude. Beware of some of the low priced Palm PFAD (Palm Fatty Acid Distillate) offerings.
- **Molasses. ED & F Man.** Prices increased on Monday October 1st. Cane molasses price has gone up by £25 per tonne since January and whilst E D & F Man only put the price up by a token amount in May they were hoping that the world prices would come back in time for the autumn, instead the prices went up carried by a weaker £pound sterling and a higher demand for molasses within the producing countries. All existing molasses blends have risen in price significantly as a result of this.
- **F 1 Viking** is our response to this development in the molasses market (see back page)
- **Sugar Beet Pulp.** They have a large crop but they also have two large Anaerobic digesters, so they can shift all of the pressed pulp into these if they need to. This means that their prices are unlikely to drop because the crop is worth more money as a raw material in the AD market than it is in the animal feed market.
- **First offer** Trident have now closed their first offer which was launched at £45 per tonne lower than last year. Trident will release a second offer when they know how much extra product they are likely to have. I don't expect any of it to be cheap!
- **Soya hulls** are around £138 ex-port trade which is hovering around £155 on farm.
- **Pea / Bean Meal**
Harvest is starting up there is a good but **what do you think is a realistic price?**
Glasson Grain took over the reins from John Searle at the end of last summer and I guess we are feeling in the dark for a sensible value. It has more fibre energy and protein than beet pulp so it's got to be in the £180's. Please let me know if you are interested.

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.

Telephone 01768 899513 Fax 01768 892744 Mobile 07711 034141

Email jerry@lakelandscottish.co.uk website www.lakelandscottish.co.uk

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