

Lakeland-Scottish Feeds & Services Newsletter

# **Tempting New Research**

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### Introduction

So, before we get stuck in there are a few important changes that you may or may not be aware of.

- 1. Molasses prices will rise by between £60 and £85 per tonne in October depending on the product.
- 2. Calf Milk replacers are also in line for a hefty increase in price but no one is spilling the beans just yet. It looks like this time Trouw's increase will not be as bad as some of the others.
- 3. Trident Feeds have withdrawn their 1<sup>st</sup> offer on September 16<sup>th</sup>. I don't think we will see another one until next season!
- 4. Mineral prices are very firm, I have heard of one company taking Phosphrous out of their minerals because it costs @£55 per percent%! That would be bonkers!
- 5. Compound Feeds and Blend prices will continue to be firm. The UK wheat and barley price is less than it was in spring and even Soya prices are less than spring the forward positions however look firm and this is driven primarily by three factors. The Ukraine war, currency rates and the heatwave which has reduced harvest yields considerably. The general consensus is to try and lock in contracts as far forward as possible.
- 6. Tridents trade briefing was revealing in that ABF have concluded that the feed prices will remain firm at least into autumn 2023.

This newsletter looks at a few new developments and some interesting data on buffers and yeasts, heat stress, Coccidiosis in calves and fats.

The political upheaval of recent weeks has done nothing to improve the markets but there is an opportunity to re-focus the structure of our economy and address some of the issues that we face. One of which is the extreme Vegan challenge to our industry. We desperately need to win the war of misinformation and propaganda that is conspiring to mislead and change the public perception of livestock farming.

We will also have a quick look at both commodity and mineral markets, the latter of which has seen price increases of between 40% and 70% since September 2021!

But before we get into that what do you think of this?

Before you read it, please bear in mind that the biochemistry is full of information that no farmers that I know will be familiar with. It's the results that really matter so if you want to skip the complicated bit just have a look at what's in bold print.

There is always something new generated within the research labyrinth that exists in our universities and industry laboratories. Most of the research never manages to escape but occasionally we pick up on work that stops you in your tracks.

Here is an excerpt from a post on Linkedin a few weeks ago, it was full of biochemistry so I have tried and probably failed to simplify it.

"A recent study published in Animal Feed Science and Technology evaluated branched-chain volatile fatty acids (BCVFA's) supplementation on ruminal fermentation and production performance of mid-lactation Holstein cows.

For anyone who's interested and hasn't given up yet, the BCVFA's were isobutyrate, isovalertate, and 2-methylbutyrate, originated primarily from the degradation of branched chain amino acids (valine, isoleucine, leucine, and proline)

The researchers (Wang et al., 2019) fed a TMR diet with or without 80 grams of a BCVFA supplement."

The details on how ruminal enzyme activity favours the abundance of the more desirable bacteria. The improved production of acetate and propionate is complex but the results are impressive!

#### An <u>increase</u> in dry matter intake of 0.9 Kg.

32.5 Kg milk vs. 28.9 KG that's 3.6 Kg more milk per cow per day!

33.5 Kg fat corrected milk vs. 27.7Kg and that's 5.8Kg more milk per cow per day!

1.36Kg milk fat vs 1.08Kg per cow per day

#### 1.09Kg milk protein vs. 0.91Kg per cow per day.

Cows fed on Folic acid (Vitamin B9) showed that milk fat was 4.19% vs. 3.73% and milk protein was 3.34% vs. 3.16%

In conclusion these findings indicate that the addition of BCVFA's into lactation diets alters ruminal fermentation and may improve nutrient digestibility and animal performance.

Well, there it is , pretty amazing but.... When will we see a practical application for us to use? So far there is no mention of costs or an actual product!

### F 1 ProSecure 1 & 2 new "Super Supplements"

As most of you know, I have worked in this industry for over 40 years (nearly 45 actually) This article is again based on fairly complex biochemistry. You could try and make sense of it or you could skip the soporific text and just try some of this new product.

You will get a payback.

The exciting bit is "how much will that payback be?"

Okay that is a bit bold but if you're up for it please give me a call on 07711 034141 Thanks.

#### There are two fundamental truths about feeding ruminants.

**1:** You are wasting time and money on expensive supplements (apart from minerals and vitamins) unless you get the <u>basic</u> diet balanced for rumen function first, and production second.

**2:** There is one fundamental rule when it comes to feeding ruminants; any diet must prioritise the health of the rumen.

This will always yield dividends.

Remember that the cow or sheep will have evolved over millions of years to gain enough nutrition from what grew around their feet. The fermentation of this "forage" yielded some extremely nutrient rich rumen microbes which, when digested in the fourth stomach and hind gut supplied most of the nutrition that the animal needed. Okay, so that ancient ruminant wasn't very productive by todays standards but it could grow, get pregnant and produce enough milk to feed its young calf or lamb and then do it again!

Modern breeds and genetics have produced animals with the potential to do far more but...... they are still ruminants and it is still true that the richest source of nutrients is those rumen microbes (MCP) microbial crude protein. (see the table below)

The golden rule, therefore, is that no matter how productive the animal is we must keep that rumen producing as much MCP as we can. Nutritionists have accepted that it is difficult to get much more out of the rumen than the standard type of diet normally achieves, but the rewards for increasing MCP output are certainly worth striving for.

The importance of maintaining a healthy rumen pH and a supply of a correctly balanced ration is now the norm but we know that the addition of live yeast, i.e: **Yeasacc TS** ® can help rumen function and help to optimise the output of rumen microbes.

We also know that Yeast itself, (See Levucell SC Titan below) and some inert yeast cultures like **Diamond V** and **DEMP** can also help with rumen output. In fact, **DEMP and Levucell** are fantastic pure forms of MCP that contain all of the essential amino acids and give an instant response.

# Rumen Protein- A great source of amino acids

	Fish Meal	Soya	Microbial Protein		
Methionine	2.4	0.65	2.7		
Lysine	5.4	2.9	8.5		
Histadine	1.4	1.1	2.7		
Phenylalanine	2.7	2.2	5.2		
Threonine	2.9	1.7	5.6		
Leucine	5.4	3.4	7.5		
isaleucine	3.0	2.5	5.9		
Valine	6	?	6.2		
Arginine	4.0	3.4	7.0		
Tryptophan	0.7	0.6	2.7		

Levucell'SC

Now in 2022, we have something new that can, in the right conditions, increase the nutrient supply to both the rumen microbes and the anaerobic fermenting microbes in the hind gut.

**F1 ProSecure** a complex <u>100 %</u> Yeast based product that has a unique manufacturing process at all levels and works with a very specific mode of action.

In the rumen both of the new **F1 ProSecure** supplements supply a significant quantity of polypeptides and amino acids, that will increase the rumen microbe population and rumen nutrient output. The product also helps to recycle free nitrogen into extra Microbial crude protein (MCP). We have also included a full dose of **Yeasacc TS** (V1) and a double dose (V2) in our products which means this dual-purpose approach works incredibly well.

In the hind gut **F1 ProSecure** supplies a very particular limiting carbohydrate that significantly increases anaerobic fermentation to produce more butyrate and propionate but not lactate.

So, what does all this mean?

In a recent trial cows that were already averaging 50 litres had a 4% improved yield of EC milk, a 2% increase in butterfat and a 9% increase in milk protein! For most milk contract prices that is worth around £1.00p per cow per day for a cost of less than 16 pence!

All of the trial responses have been significant but with all new products it can take time for them to catch on.

Your only decision is "is it worth a try?" The answer to that question is probably yes,

Target animals are close up dry cows, fresh calvers and high yield groups for 3 reasons:

- 1. Both versions of **F 1 Prosecure** are very effective cooling treatments because they will also help cows with a high metabolic rate reduce heat stress by increasing pH by reducing lactic acid loading both in the rumen and in the hind gut.
- 2. Increasing MCP output from the rumen supplies all of the most limiting amino acids like Methionine and Lysine.
- 3. Close up dry cows will benefit from a smoother rumen transition from the dry cow diet to the production diet.

### **Treat Acidosis and Heat Stress Together**

As the summer heat fades into autumn the focus on heat stress is receiving less attention, but the nature of the cow shows that performance can be impacted by much lower temperatures and humidity than we thought.

Today, we would say that adequate buffering against rumen acidity and also coincidentally heat stress should be part of routine nutrition and environmental management.

The article above shows how **F 1 Prosecure** can help to reduce heat stress caused by lactic acid build up and the heat generated by cows with a high metabolic rate.

We all know that normal rumination works on a neutral pH but when the cows become acidotic, heat starts to build up and the "train starts to come off the rails".

High yield cow diets feed more concentrates and are more likely to suffer as a result so whilst forage intakes are "<u>the</u>" key factor we also inevitably need a rumen buffer.

Lakeland-Scottish recommend the joint use of F1 Yeast and Acid Buf rather than Sodium bicarbonate or most other buffers. The use of both products works better together.

Here's why Acid Buf is the best option!





### New Way of Dealing with Coccidiosis

It turns out that **Oregostim** ® could also be effective at preventing coccidiosis in calves.

It is currently used to this effect in the poultry industry on a wide scale and a recent trial has shown a great result with lambs.

We are very confident that it will work really well with calves too but we don't have the trial work as yet. This can happen in two stages.

- We find some units where calves are already being treated conventionally and we set up a
  parallel group to trial Oregostim 

   as an alternative and compare the results.
   If you could help us with this please let me know and I will set up a meeting between
  you, me, Anpario and a vet so that we can agree the best protocol.
- 2. Once the initial farm trials have been concluded we should be able to progress to a university trial in order to give the product and technique some provenance in the academic world and we can cite the trials as examples of good practice.

Why should we bother with doing this? There are a few good reasons:

- We already know that **Oregostim** <sup>®</sup> can be used to reduce the loading of Cryptosporidium and will help to eliminate any serious problem when used in conjunction with good pen hygiene practices.
- We know that it has powerful anti-bacterial properties and can be used in baby calves to reduce risk of infection in early life to great effect.
- We know that it works as an antioxidant and can be used to great effect in close up dry cow diets alongside good mineral and vitamin supplementation.
- The product is a low-cost way of preventing infection and ultimately improves animal health and performance. We commonly are told that farmers who use it have less need for veterinary interventions for the calves that have been on the product.

If you are not already using this product, give me a call it is definitely worth a chat!

### Rapeseed Meal vs HiPro Soya

We have been here a few times in the last few years. This time the relative value of the two products looks to have changed, or has it?

#### Current Hi Pro Soya price is @ £483 per tonne (full loads delivered)

#### Current Extracted Rapeseed Meal price is @ 320 per tonne.

So extracted Rapeseed meal look cheap, doesn't it?

Hi Pro Soya is say. 90% Dry Matter 48% Crude Protein = 53,33% CP in the Dry Matter (DM)

Extracted Rapeseed meal is say, 90% DM 32.5% CP = 36.11% CP in the DM. (the DM figures in table at the end of this newsletter are slightly different).

This means that Extracted Rapeseed meal is  $53.33 \div 36.11 = 67.7\%$  or  $\frac{2}{3}$  of the protein of Hi Pro Soya

 $\pounds$ 320 ÷ £483 = 66.25% of the price of Hi Pro Soya. On crude protein alone it would have to be  $\frac{2}{3}$  of the price of the Hi Pro soya and that would be £322.16p per tonne. But remember The Rapeseed meal is only 12 MJ/Kg DM and Hi pro soya is 13.8 MJ/ Kg DM

## This simple analysis shows that even at a current difference of £163 per tonne Extracted Rapeseed meal is not really any better than soya on protein costs.

Note: Optigen on the last page of this newsletter is the best value for money of all!

JJT, 15/06/2020 & 07/06/2022.

### **Mineral Markets**

We are just about to post our annual tender for mineral supplement quotes for the winter. Prices are much firmer than last year but wit a reassessment of the nutrient requirements for livestock published by the NDA and headed by Professor Bill Weiss and his extensive team in the USA, we can re specify our supplement formulas.

The good news is tha we can save a lot of money by reducing Phosphorous levels but it wont feel like it because all of the other ingredients are also more expensive.

New prices will take effect on October 1<sup>st</sup> and unlike previous years we cant see much if any saving by ordering early. If you would like to review your formulations, please give me a call and we can see if there is any room for cost saving.

There are some key things to watch out for though.

- Rumen buffers have already risen in price so there is no need to expect too much change now.
- Zinc Sulphate is gradually replacing Copper Sulphate in footbaths . It is much safer for sheep and it does as good a job for dairy cows, whilst being much less severe on any damaged tissues.
- Even though inflation has increased the cost of mineral supplements substantially, we would caution against cutting back or removing the supplements from the diet. It may well be that all that is needed is some adjustment to the supplement formulation.

The new feeding recommendations for ruminants (Dairy Cows) were published last December We have re-formulated many of our minerals in line with these new guidelines. The key changes are highlighted in the charts below.

The green arrows indicate an increase and the red arrow a decrease in the allowance.

Most of these changes have already been included in the software we use for our rationing models like Ultramix and Nutri-Opt.

	Heifer	Dry Cow	Lactating Cow
Ca	$ \longleftrightarrow $	1	1
Р	$\leftrightarrow$	$\leftrightarrow$	ŧ
Mg	$ \longleftrightarrow $	11	11
К	$\leftrightarrow$	$\leftrightarrow$	ŧ
Na	$ \longleftrightarrow $	$\longleftrightarrow$	÷
Cl	$\leftrightarrow$	$\leftrightarrow$	
S	$\leftrightarrow$	$\longleftrightarrow$	$\begin{array}{c} \bullet \\ \bullet \end{array}$

### Summary: Macrominerals

This table shows that calcium levels should be increased for both Dry and lactating cows. The dry cow increase is no problem for far off cows but should be offset with extra DCAD by using calcium Chloride for close up cows or X-Zelit which will capture the calcium until it is needed.

The lactating cow has always tended to be fed too little calcium especially when grazing in the spring and autumn.

Magnesium is a bit of a revelation but the review has confirmed that we have often fed too little and this has not helped the durability of skeleton reserves.

	Heifer	Dry Cow	Lactating Cow
Со	1	1	1
Cu	+	11	$\longleftrightarrow \downarrow$
Fe	ŧ	$\longleftrightarrow$	$ \longleftrightarrow $
Mn	111	111	111
Se	ŧ	$ \longleftrightarrow $	$ \longleftrightarrow $
Zn	ŧ	1	1
Vit A	<b>†</b>	$ \longleftrightarrow $	
Vit D		$\longleftrightarrow$	1
Vit E			$\longleftrightarrow$

### Summary: TM and Vitamins

The changes to trace minerals and vitamins are pretty well what we expected but the increase in allowance for manganese is largely due to the fact that forage manganese is very much tied up and unavailable to the cow. When this is corrected (usually by using protected manganese mineral chelates) watch out for better bulling activity!

### **Raw Material Markets**

This year's Sugar Beet Pulp prices and availability has just been released. A smaller crop acreage has suffered the ravages of the summer drought and drying cost are up by 500% as a result the allocations have been cut but it still looks relatively good value against Soya Hulls

Allocations will sell out fast so if you want some talk to your supplier sooner rather than later!

Molasses prices have been very competitive this summer and we are told that the relative price of molasses will be able to compete well this autumn. I will as ever keep you posted

Current Soya prices have stabilised to some extent on the world market.

The exchange rate of the Pound and Euro with the dollar has also helped the commodity prices remain firm.

The drought and heat stress caused to European maize and wheat crops in particular has also helped to keep the prices firm by squeezing stocks and surpluses although in the UK we are still net exporters of wheat!

We all know why protein prices remain firm but they are hovering around £488 for September 22; and £474 for Nov – Apr 2023. It was £378 and £368 delivered a year ago! Current Maize prices are also hovering around £312 ex-port spot to Oct 22. It was £224 ex-port a year ago! Current London Wheat Futures are around £364 ex store Nov 22 It was £186 ex store a year ago.

#### **Current Crude Protein Cost Comparisons of some Protein Sources**

	Price £	Dry Matter	Cost per	Energy	£ Cost per MJ	Protein	£ Cost per % CP	Average £ cost per	
	Per Tonne	%	Tonne DM	Mj/Kg DM	Per tonne D M	% DM	Per tonne D M	MJ & %CP /T DM	Late September
De Hulled (Hipro) Soya Ext Meal	488	90	542.22	13.8	39.29	53.33	9.15	30.35	delivered
Argentinian Soya Ext Meal	473	89	531.46	13	40.88	42.4	11.16	33.49	delivered
Lo Pro Soya Ext Meal	0	89	0.00	13	0.00	44	0.00	0.00	delivered
Soypass	695	90	772.22	13.6	56.78	48	14.48	45.33	delivered
NovaPro	403	88.5	455.37	13.1	34.76	34.83	11.57	30.92	delivered
Rapeseed Ext Meal	340	90	377.78	11.8	32.02	36.11	9.42	27.02	delivered
Rapeseed Exp Meal	340	89	382.02	13.2	28.94	35.4	9.60	25.71	delivered
Optigen	2375	99	2398.99	13.2	18.52	275	8.72	22.81	delivered
Dry Wheat Grains	340	90	377.78	13.5	27.98	28	11.11	31.21	delivered
Dry Maize Grains	338	90	375.56	12.7	29.57	34	13.41	35.58	delivered

Includes @ £25 for delivered bulk 29 tonne on farm prices give or take! Prices on 25th April 2022

#### **Bullet Points**

 F1 Yeast The existing F 1 Yeast and the two new ones are all available now so if you check out our web site you will get all of the fine detail. The web link is as follows: -<u>www.lakescot.co.uk/f1-yeast/</u>

#### • Soya Hulls Vs. Sugar Beet Pulp

Soya Hulls currently offered on farm @ £325 per tonne give or take and Trident Supa Flow @ £375 give or take for the winter

The costs are Soya Hulls £31 per Megajoule DM and Supaflow £32 per megajoule but when you look at the digestibility Sugar Beet pulp wins hands down. If you look at total NDF its Soya Hulls.

- Molasses. If you have room take your next load before September 30<sup>th</sup>. The cut off point will be pretty inflexible.
- **Richard** has now moved on after a further three-year stint as my administrator and web designer. This is a great opportunity for him to expand his skill base in a much more diverse setting. I wish him all the best in his career move which seems to be going very well.

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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