



# And then it was Winter!

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## Hot Topic

First things first, the trend towards taking more cuts of grass silage with shorter intervals between the cuts has resulted in some interesting side effects.

- The silage has less fibre and more leaf, higher “D” value and better energy and protein  
Tetraploids, Westerwolds and Italian Ryegrass have a better structure than other grasses.
- The cut grass is high sugar and tends to result in a greater production of lactic acid. Some additives have made this worse and some natural fermentations have produced very low Ph’s
- The low fibre means that the scratch reflex is poor and the cudging rates are low meaning that the cow produces less saliva buffers the acidity less and succumbs to acidosis. Initially this is not noticed but gradually she eats less, the milk yields fluctuate but are generally lower, she spits out cuds, has loose bubbly muck and shows tail flicking symptoms.
- Coming back from this does not happen overnight!
- Use chopped scratchy wheat straw to improve cudging
- Add a good rumen buffer like Acidbuf or Equaliser. The inclusion of live yeast into buffers has always sat uncomfortable with me. I can never get the live yeast recovery rates to stack up when I have had them tested.
- I have found that farmers who stopped using Live F1 Yeast to try and cut costs have noticed things get worse but by double dosing for a couple of weeks, they have managed to recover the rumen stability when the yeast is used along with the fibre and the chemical buffers. Re-introducing F 1 Yeast has definitely had the most positive effect!

# Introduction

The little photograph on the front of this newsletter was taken at the South West Scotland Dairy Show at the Castle Douglas Auction market on the evening of October 27<sup>th</sup>. It was great to see such an event happening in Scotland after so long. The standard of cow was amazing and featured some of the best animals in the country! We are proud to be a sponsor for this event and would like to congratulate all of the winners.

**“Book well ahead”** is still the key message. Its something that has caught me out a couple of times recently and I keep checking our lists but if you wouldn't mind checking your stocks, it will help us to replace products before they run out. Lead times are now up to 3 months for some products due to the usual end of year festive holidays on top of everything else!

This situation is not being helped by the random decisions being taken at the main haulage hubs. Sometimes goods can be held up by as much as a week after they have been despatched by the manufacturers whilst they stretch their available driver workforce to try and cope! This is also not helped by the complete lack of communication when it comes to delays!

In fact, I think that by the end of this winter my hair will have prematurely completed its transition from dark brown to grey!

**We are now taking orders for Christmas and New Year stocks. It's a good Idea to book forward at least up to the end of January 2022!**

Of course, everyone is now more than aware of rising costs. The obvious one is fuel but animal feed has not been immune and certain products are now looking a bit questionable for example: Monopropylene glycol which has now more than doubled in price, and feed grade urea which is on a day-by-day quote! (Alltech's Optigen now looks really attractive in comparison).

The inevitable result of this is diet juggling and longer cash flows. The latter of which is beginning to concern us in our own business. (Yes, that is a bit of a hint!). It has occurred to me that when we sell commodity products like Sugar Beet Pulp and Maize Meal, the margins are low and the bills are large so, without prompt payment we tie up large amounts of working capital and this could prevent us from conducting some of our business.

Also, have an offer on the table for a potentially very attractive price on bulk maize meal. If we take this on it will be sold on a 28-day payment schedule, which sounds harsh but will be a cost saving to most farmers. We have also decided to request the same terms on other commodity products unless we agree a package.

Vilofoss have just published detail of a large-scale trial looking at the comparison between X-Zelit and the BioChlor DCAD approach to anti Milk Fever strategy for close-up and fresh calved cows during transition. The results are emphatic and we have reproduced an unabridged copy of the press release.

Vilofoss have also been instrumental in promoting the use of a great dispenser for their Stalosan cubicle lining powders (with and without disinfectants). Many farmers are familiar with Stalosan

and have opted for other solutions but we think its worth another look since the current versions are extremely effective.

October the 4<sup>th</sup> was a bit of a red-letter day for the ruminant feed industry. Professor Bill Weiss from OHIO State University was hosted by Trouw nutrition in a webinar to summarise the changes recommended by the NRC study group to the recommendation for feeding minerals and vitamins to ruminants. The changes were significant!

Optomega Plus is definitely worth another look, there is no doubt that the multiple benefits to cow health, production and fertility make this one of the most cost-effective investments even now when the profitability challenges are being tested more than ever. **This product may also help to offset the cost of protected fats** with a more direct improvement to fertility and immunity as an extra benefit!

## • X-Zelit vs DCAD (Bio-Chlor)

4. October 2021

Comparison of a Negative DCAD and X-Zelit Prefresh Strategy

### OVERVIEW

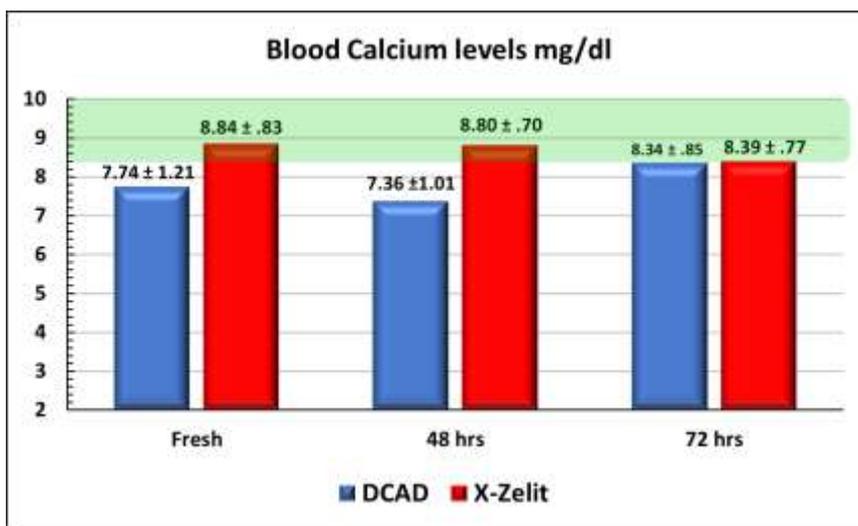
A recent field trial was conducted by Kansas State University on a 5000-cow commercial dairy herd comparing a negative DCAD and a X-Zelit prepartum feeding strategy in a side-by-side study. Second lactation and older cows (n=1,102) were randomly assigned to be supplemented with either BioChlor (DCAD -106 meq/kg) or X-Zelit (500 grams per head daily) in the 21-day prepartum period. In a subgroup of cows (n=30 per treatment), blood samples were collected at 0, 48 and 72 hours relative to calving to determine calcium, phosphorus, and magnesium status.

Both treatment diets contained the same prefresh ingredients except for the inclusion of either BioChlor or X-Zelit and there was a difference in dietary calcium concentration (2.53%: DCAD versus .57%: X-Zelit). Cows in both treatments were similarly managed and KSU research staff were present daily to assist the farm crew in mixing the prefresh diets.

### RESULTS

Blood calcium levels were significantly higher for the X-Zelit fed cows at both calving and 48 hours post-calving (Figure 1). Not only did the X-Zelit treatment have much higher blood calcium levels, but there was less variability for the X-Zelit cows compared to the negative DCAD cows. Higher and tighter blood calcium levels are critically important to maintain optimal health and production during the first 48-72 hours post-calving.

Figure 1.



Both blood phosphorus and magnesium were lower at calving for the X-Zelit group (Figures 2 & 3). Even though the blood magnesium was lower, it was still within the normal range. However, at 48-72 hours, both the blood phosphorus and magnesium levels were equal and/or higher in the X-Zelit cows compared to the negative DCAD cows.

Figure 2.

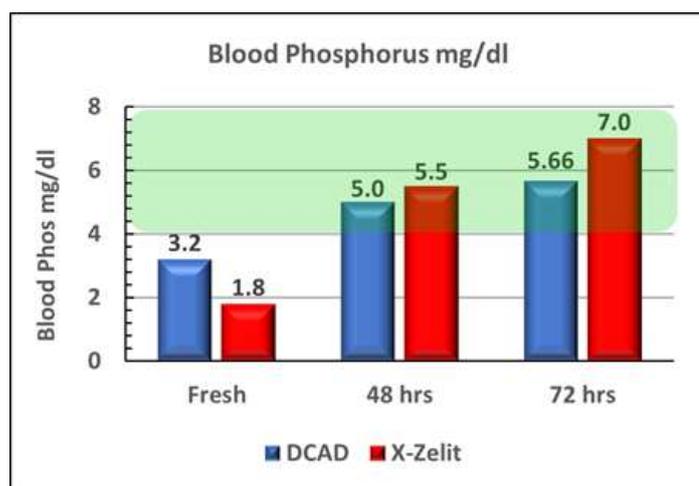
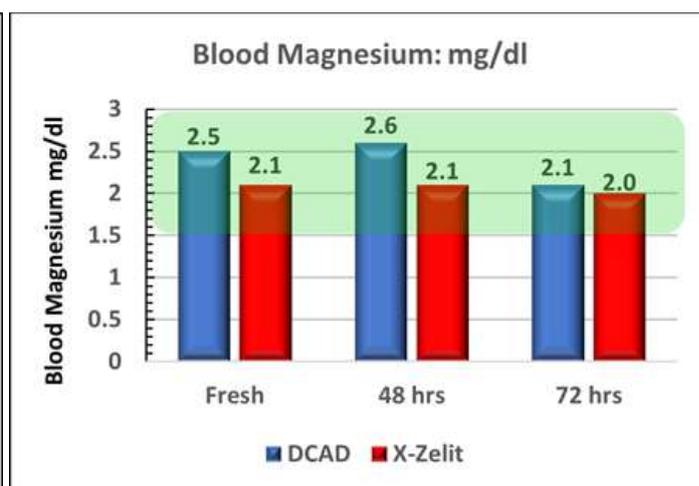


Figure 3.



## IMPLICATIONS

This field trial data strongly agrees with the Cornell research trial (Kerwin et al., 2019) showing significantly higher blood calcium levels through the first 48-72 hours post-calving. The postpartum blood phosphorus and magnesium levels were also similar between this field study and the Kerwin data. In addition, chronic subclinical hypocalcaemia (cSCH) cows are defined as cows that remain below the optimal blood calcium (8.5 mg/dl) level for the first 72 hours post-calving. There continues to more evidence emerging that cSCH cows are very high risk for reproductive failure, lower milk production and removal from the herd. The X-Zelit strategy provides the best opportunity for minimizing chronic subclinical hypocalcaemia at the farm level.

## BOTTOM LINE

Achieving transition cow success is challenging for both the cows and the producers. A seamless transition into lactation is essential to maintain health and achieve expected production and financial goals. In contrast to the negative DCAD approach, the X-Zelit strategy allows producers to achieve optimal fresh cow blood calcium status with the convenience of feeding more home-grown forages instead of sourcing low potassium forages and routinely monitoring urine pH. Furthermore, higher blood calcium levels will reduce the need for supplemental calcium boluses, minimizing fresh cow touches. Overall, the X-Zelit strategy will simplify the implementation and management of your pre-fresh feeding program while achieving transition success.

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At Lakeland-Scottish Feeds & Services we believe that this system is a very simple and straightforward technique for not only avoiding the effects of milk fever, but kickstarting the lactation in a more positive way. The new feeding recommendations for minerals to be published by the NRC in December will highlight the need for extra magnesium in ruminant diets and we have already adjusted our rationing software to include this change.

## Protected Fats and Optomega Plus

The rise in the cost of using protected fats will not have gone un-noticed by anyone. Even the sellers will admit that the current prices are prohibitive but for certain situations they are still a valid choice.

For example: If half a kilo of Megalac costs say £0.50p The 15 megajoules of energy should be worth about 2.75 litres of milk. In practice it will be about 1.5 litres of milk with some extra butterfat and a possible fertility dividend. So, its about break even on today's milk prices. For the record I have never been that keen on using calcium soaps like Megalac or any of the other brands because there is good evidence to show that they are not as digestible as some of the refined fats and they may reduce intakes.

**So' what if we could get some extra energy from the base diet with or without using protected fats?**

I first featured this article in February 2019 but it seems even more relevant at the moment.

Our interest in **Optomega Plus** 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** when using the two essential fatty acids 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.

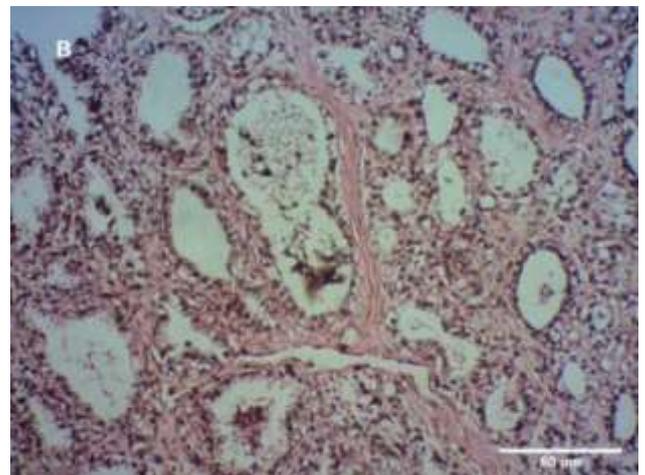
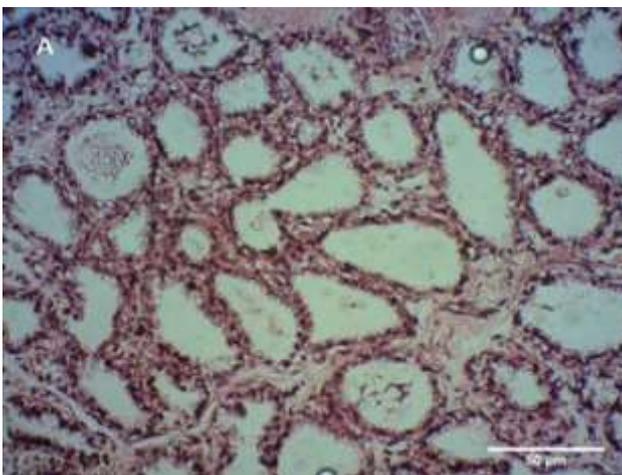
### BACKGROUND

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**

Replacing 500 grams of Megalac with 120 grams of Optomega (15 Megajoules for 3 plus 4 from TMR = 7) there was **no** drop in milk yield. This result supports better efficiency of milk production in the udder!

Anpario have just launched a version of Optomega Plus called Optomega Algae where the DHA is derived from sustainably cultured Algae. This version is also currently available on the same remarkable carrier as Optomega Plus.

## Red Letter Day for Mineral & Vitamins

Trouw Nutrition hosted a webinar by Professor Bill Weiss (University of Ohio) on October 4<sup>th</sup>.

Bill summarised the new feeding recommendations for ruminants (Dairy Cows) which will be published at the end of this year.

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. The research that has shown the changes needed

since the last update having already been adopted, but some of it is new and will be adopted in the reviews by the new year in most cases.



## Summary: Macrominerals

	Heifer	Dry Cow	Lactating Cow
Ca	↔	↑	↑
P	↔	↔	↔
Mg	↔	↑↑	↑↑
K	↔	↔	↔
Na	↔	↔	↔
Cl	↔	↔	↔
S	↔	↔	↔

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.

## Summary: TM and Vitamins

	Heifer	Dry Cow	Lactating Cow
Co	↑	↑	↑
Cu	↔	↑↑	↔ ↓
Fe	↔	↔	↔
Mn	↑↑↑	↑↑↑	↑↑↑
Se	↔	↔	↔
Zn	↔	↑	↑
Vit A	↔	↔	↔ ↑
Vit D	↔	↔	↑
Vit E	↔	↔ ↑	↔

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

The background commentary to the commodities markets hasn't really changed that much in the last few months. China has such a huge influence on availability and demand worldwide. So its not just about the commodities themselves, they also pay a premium for shipping which has fuelled the inflation of freight costs. Their buying power now makes it just about impossible to compete and the result is that low priority products are now in short supply because there is not enough (hence reasonably priced) shipping capacity to move them.

This lack of shipping is mainly due to the effects of COVID 19 worldwide, and the extra competition has fuelled the price increase. The cost of fuel has doubled since the start of the pandemic and when you put these two factors together you get the mess we are in just now. The pundits are predicting that as the vaccination program effectively increases the labour availability, we should start to see more ships become available to shift the products and prices should start to drop. Meanwhile, don't hold your breath!

Current Soya prices are hovering around £390 ex-port spot to £330 for Late November - Jan 22 and £329 for Feb - April 22. It was £386 and £375 ex-port a year ago!

Current Maize prices are also hovering around £275 ex-port spot to £250 November – April 22. It was £200 and £203 ex-port a year ago!

Current London Wheat Futures are around £214 ex store spot and £214.50 January 22

It was £187 and £186.60 ex store a year ago. Wheat futures have firmed considerably since June due to lower-than-expected harvest returns on the world markets although in the UK after some crop failure of winter wheat due to the wet autumn in 2020, we have generally seen a good harvest with spring cereals doing very well indeed.

## Current Crude Protein Cost Comparisons of some Protein Sources Ex Port

	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	
De Hulled (Hipro) Soya Ext Meal	339	89	429.21	13.8	31.10	52.53	7.27	26.82	Late Nov
Argentinian Soya Ext Meal		89	0.00	13	0.00	42.4	0.00	0.00	
Lo Pro Soya Ext Meal		89	0.00	13	0.00	44	0.00	0.00	
Soypass	540	90	627.78	13.6	46.16	48	11.77	41.32	
NovaPro	349	88.5	372.88	13.1	28.91	34.83	9.47	29.14	delivered
Rapeseed Ext Meal	291	91	313.19	11.8	26.54	37	7.70	25.21	
Rapeseed Exp Meal	296	89	301.12	13.2	22.81	35.4	7.57	23.14	
Optigen	2000	99	2020.20	36	18.52	275	7.35	27.21	
Dry Wheat Grains	300	90	333.33	14.5	22.99	34	9.80	26.69	
Dry Maize Grains		90	0.00	15	0.00	28	0.00	0.00	

Excludes @ £20 for delivered on farm prices give or take! Prices on 1st November 2021

Good buys still includes 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 Optomega Plus [www.lakescot.co.uk/optomegaplus/](http://www.lakescot.co.uk/optomegaplus/) . There is a lot more information on how this product fits in to progressive milk production and breeding plans. Any farmer who is looking at embryo flush programs should really seriously consider this product!
- With mineral prices on the rise, we are encouraging our clients to **book orders up to 3 months ahead!** We have already had e mails from some of our suppliers asking for orders forward to mid-January! They need to get their “ducks in a row “ in order to plan haulage , production and their own raw material supply.
- We have just tendered for our mineral range for the period from October through to the spring. We know that we are very competitive but with supply the way it is we suggest that it would be wise to take some cover now!  
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 in the UK for the money!
- It's worth repeating that you could check out our website for rumen buffers for more on dealing with acidosis [www.lakescot.co.uk/rumen-buffers/](http://www.lakescot.co.uk/rumen-buffers/) The dividends for good buffering are always better rumen function and better milk and milk quality output.
- **Early warning**. We were working on a sales campaign for our new Britannia Calf Milk Replacer range. Current tight availability of raw materials means that we have cancelled this until the new year but if you would like to give the best calf milk replacer in the world a try, please give me a call! We are looking at the need for better creep feeding and I am actually quite excited by just how good this should be! This calf starter cake will give us a major step forward in foundation nutrition for a more productive life. Progress with this is painfully slow but when it is ready it will be a major advance in calf nutrition.  
**Skim milk powder continues to firm so early ordering is advisable!**
- **F1 Yeast** has some more 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/f1-yeast/](http://www.lakescot.co.uk/f1-yeast/)
- **Check out the new F1 Dairy Blueprint on the website, we have started circulating hard copies by personal visit because there is a good excuse for a catch up!**  
[www.lakescot.co.uk/the-f1-dairy-blueprint/](http://www.lakescot.co.uk/the-f1-dairy-blueprint/)

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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