360° news from advanced nutrition

Winter 2017

Coping with Volatility

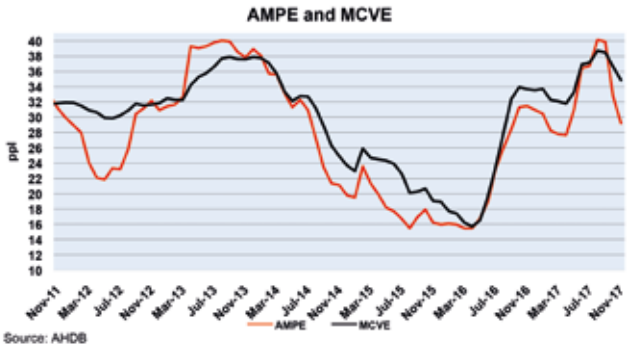
Nearly every industry meeting or conference I have attended in the last 12 months had a similar message for the attendees, "volatility is here to stay".

Not the most inspiring of take home messages but I guess we are being "conditioned" not to get too optimistic. In the dairy sector we have already had an early indication that a change in fortunes is on the doorstep (see chart below). There is no indication whatsoever that any downturn will be as severe as 2015-16, thank goodness.

If there is a positive from this we should be more adept at coping this time. I'd like to think that our customers now have a coping strategy and can be more resilient this time. We all learnt a lot 2 years ago, let's build on that. If adversity doesn't beat us, it leaves us more resilient, more efficient, more adaptive and better placed to remain profitable throughout.

We should never stop trying to improve, cut out waste, optimise output and drive efficiency. In that vein the articles contained in this issue are aimed at just that, making better use of what we have, improving performance and profitability, something applicable wherever we are in our new volatility cycle. I hope you find these interesting and informative.

Ian Brown, Managing Director



Source: AHDB

Ryan McPherson

We're really pleased to introduce our latest Ruminant Specialist, Ryan McPherson who joined us in November 2017. Ryan will be based in North Cumbria.

Background:

- Ryan has a strong, practical dairy background
- Worked with progressive dairy herds for over eight years
- Been advising on farms for the last three years

Skills Focus:

Ryan has a strong focus towards improving cow performance having worked extensively in that area. He is very interested in the relationship between nutrition, breeding and genetics. His experience has shown him that cow performance is not just about the feed we put in front of the cows but a whole farm approach.

"I jumped at the chance to work with Advanced Nutrition! It's great working alongside a team of cow-minded people who all bring a diverse array of skills and experience. I am an advocate of achieving best performance from healthy cows and with Advanced Nutrition being independent, I'm able to draw upon the best of research and innovative products to support farms across Cumbria."

You can contact Ryan McPherson on 07983 813 437 or email: ryan@arn-ltd.com

Improving fertility

Adding value to silage

Feeding to yield

advanced nutrition
moving farms forward

01524 263 139
www.arn-ltd.com
office@arn-ltd.com

360 Farm Assessment and Evaluation

Harper Adams Placement Student, Marie Powell, shows how observing cows and tweaking their environment can make a big difference.

To improve herd health and performance, Advanced Nutrition takes a whole farm approach. In order for the Ruminant Specialists to best advise their clients they complete comprehensive farm assessments.

On a Lancashire dairy unit I was challenged to make an assessment of the cow's environment and provide practical solutions to help the farmer increase cow comfort and ultimately their performance.

There had been some development on this farm with the conversion of a silage clamp into a cubicle shed. I was interested to see how the herd was doing.

Ventilation

Cows can really tell us a lot. I could see the cows were congregating in the outdoor corral and cubicles in the new building. Smoke bombs helped to confirm that ventilation was poorer in the older shed.

Cubicles

Good cubicle design is important as it encourages rumination, fertility and good hoof health.

Comfortable cows also produce higher levels and better quality milk so with this in mind, nothing should discourage her from lying down.

The cubicles are split 50:50 between the two sheds. During my observations the cows had a preference towards the new building. In addition to the poorer ventilation in the older shed, the lunge space was more open in the new building.

Stocking Density

I also analysed milk records including the fat to protein ratio. There was great variation in these results which could be attributed to the stocking density (see table).

	Cubicle occupancy	Water trough space	Feed trough space	Stocking density
Requirement/Cow	1/1	10cm	60cm	Max 115%
Recorded/Cow (190 milking cows)	0.8/1	4cm	53.4cm	121%

Lighting

Managing light levels can mean additional income per day through increases in milk yield and fertility so lighting levels were assessed.

	Average Lighting levels (lux)
Requirement/Cow	170-200 lux for 16-18 hours/day
Recorded/Cow	90 lux for 11-12 hours

Moving Forward

I can really see the value of the farm assessment. Seeing your own farm day in, day out can mean it's difficult to see the wood for the trees.

The results of assessment are two-fold, highlighting both the things that are good as well as the areas where improvements could be made.

These findings will be discussed with the client, with a view to creating a prioritised practical plan. Monitoring will then show what progress is being made going forward.

In today's marketplace the resources on farm need to be optimised to create maximum return. Speak to your Advanced Nutrition representative or call the office on 015242 63139 to find out more. Evaluations are free and could provide practical pointers to move your business forward this year.

Improving Fertility with Liquid Feed

Mark Gorst has been looking at how we can have the best of both worlds in early lactation cows, milk and fertility.

Stuart Shepherd of Shepherd Dairy Ltd based at Garstang, Lancashire, milks 150 cows averaging 33.5 litres per day. The milk is bottled and distributed around the local area.

In early summer we discussed the easiest way to maximise energy intake as it was felt the cows were milking well but fertility may have begun to take a dip.

One option we looked at was adding extra energy to the single feed going into the out of parlour feeders. This would have been fed across all cows and therefore could be difficult to manage as unless the cows were grouped differently the higher yielding cows may not quite get enough whereas the later cows may get too much energy.

We also explored adding Advanced Nutrition's Transition Energy liquid feed, this would be applied through a dose pump giving an amount per day which could also be split into different feed times. It was felt this would be the most accurate way of adding the boost to the cows that needed it, particularly those in early lactation to keep up with their energy demands, without having to change the diet for the whole herd.

Transition Energy is a mix of glycerine and monpropylene glycol along with molasses and a flavouring to aid intake. The mix within Transition Energy provides glucose pre-cursors that help clear the liver reducing the risk of fatty liver and ketosis. It also stimulates fertility responses in early lactation as well as helping feed intakes.

The liquid feeders were installed at Moons Farm in July 2017 and Transition Energy was introduced to the early lactation cows in August. It's currently being fed at 250ml per cow per day for the first 30 days, if the yield is in excess of 50 litres after this period then it is continued until the cow drops below this level. Stuart commented,

"Once the cows got used to the liquid in the feeders we have seen an increase in bulling activity, the bulling cows are easy to spot".

This has also shown on the milk records with cows in calf by 100 days since calving increasing from 32% in July to 56% at the start of November.

Transition Energy can also be fed to near calving cows, an ideal way to help the liver in the run up to calving.

To discuss the possibilities of Transition Energy enhancing fertility get in touch: t: 01524 263 139 / e: office@arn-ltd.com

Adding value to your silage

Joe Adams looks at the latest advances in silage production.

Supplying products with added value is one of the key aims for Advanced Nutrition, which is why when an innovative silage additive was introduced to us we were keen to learn more. Calum, Sean, Derek and I went to Germany to visit the research farm and technical team at Shaumann who produce the BonSilage range of silage additives. The main focus during the trip was on their BonSilage FIT product range, both for grass and maize silage. It works by shifting the fermentation acid patterns to produce more acetic acid and propylene glycol which increases aerobic stability as shown in Figure 1.

Benefits of BonSilage FIT G

By using a carefully formulated mix of both Homo- and Heterofermentative lactic acid bacteria it provides excellent aerobic stability to stop the clamp face from heating. This is due to increased acetic acid being produced which will reduce nutrient losses effectively by killing yeasts and moulds.

The unique benefit of this additive is its ability to produce propylene glycol during the fermentation process alongside the acetic acid. The use of the additive has been shown to provide 20-45g of propylene glycol per kg of DM. For example, if a cow had 22kg DMI, with 60% of the diet grass silage treated with FIT G this would provide 400g of propylene glycol.

To produce 400g of propylene glycol from BonSilage Fit G it would cost 9.6p/cow/day, a saving of 62.4p/cow/day if you were to purchase a liquid propylene glycol product.

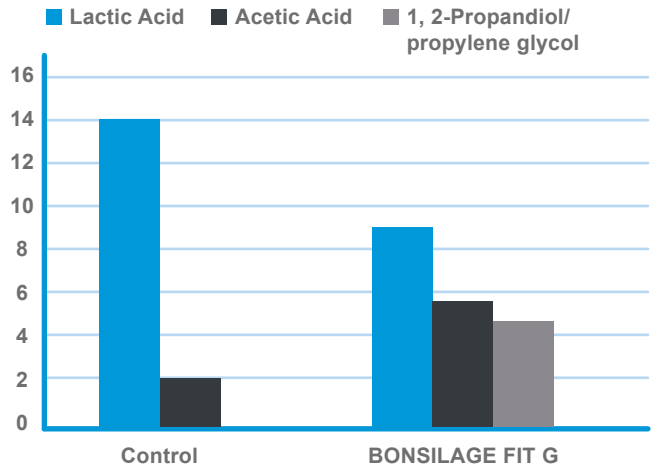
Benefits of Propylene Glycol

Propylene glycol is beneficial to cows in early lactation to reduce the effects of negative energy balance, due to its ability to reduce body fat mobilisation. This is shown in Figure 2 by reduced BHB levels in cows fed with grass silage treated with BonSilage FIT G. BHB is a ketone body which is converted from body fat reserves, which in high concentrations causes sub clinical and clinical ketosis. By being absorbed as propionate in the rumen it allows for increased glucose production which in turn stimulates insulin secretion and, reduces the mobilisation of fatty acids from the cow's body reserves. By helping prevent ketosis and increase insulin levels it improves production and fertility, with cows cycling sooner after calving and stronger heats being observed.

Being able to produce propylene glycol during the silage fermentation process is an innovative way to help combat one of the dairy industries most prevalent metabolic disorders.

FIGURE 1

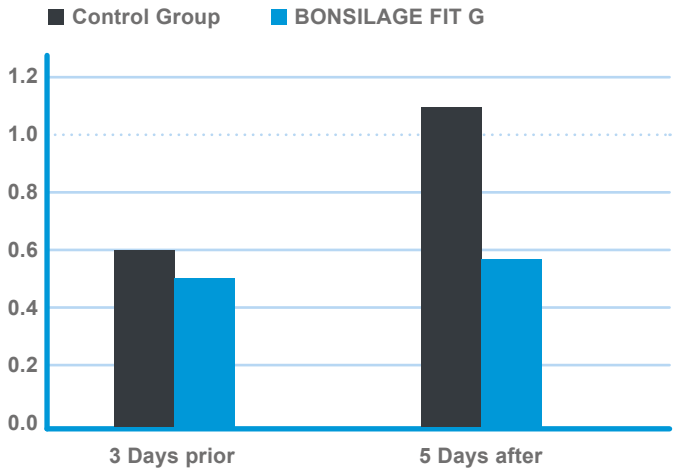
BONSILAGE FIT G: Gentle propylene relieving metabolism and impressive acetic acid levels



Source: Cooperation University of Gottingen and ISF, 2016

FIGURE 2

BONSILAGE FIT G: Metabolism is relieved due to reduced BHB concentration in the blood



10% off
orders over 1000 tonnes treated placed before the end of February.

BON SILAGE FIT G

Boost the energy content of your grass silage with Bonsilage Fit G

This innovative product increases levels of acetic acid and, uniquely creates a supply of propylene glycol. To produce 400g of propylene glycol from BonSilage Fit G it would cost 9.6p/cow/per day, a saving of 62.4p/cow/day if you were to purchase a liquid propylene glycol product.

Benefits:-

- **supports metabolism and fitness**
- **prevents reheating**
- **improves aerobic stability**
- **high digestibility, palatability and protein quality**

Range of application:	Grass and clover grass silages with 28-50% DM
Minimum storage period:	8 weeks
Dosage:	2g BONSILAGE FIT G / T ensiled material

Contact the Advanced Nutrition office to order BONSILAGE FIT G: t: 01524 263 139 / e: office@arn-ltd.com

Offer subject to terms and conditions. Order must be placed before 28th February 2018. Order must be taken in one delivery. No returns accepted. Please ask for our terms and conditions.

Avoid fatty liver and LiFT performance

Donald Macleod, Cargill

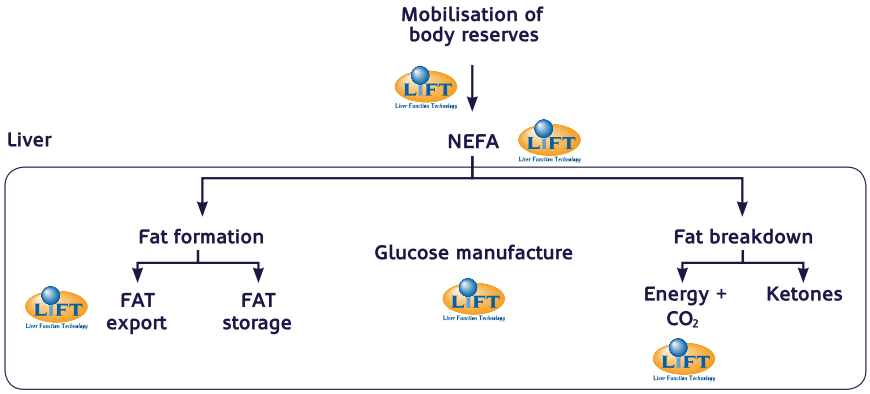
Fatty liver is often a silent thief on dairy farms, with typically 50% of dairy cows having some level of fatty liver in early lactation. Effects of fatty liver usually manifest themselves in reduced yields, and a predisposition to transition cow diseases – such as ketosis, milk fever, displaced abomasums, mastitis, metritis. Further down the line these early lactation problems result in poor fertility and increased cell counts.

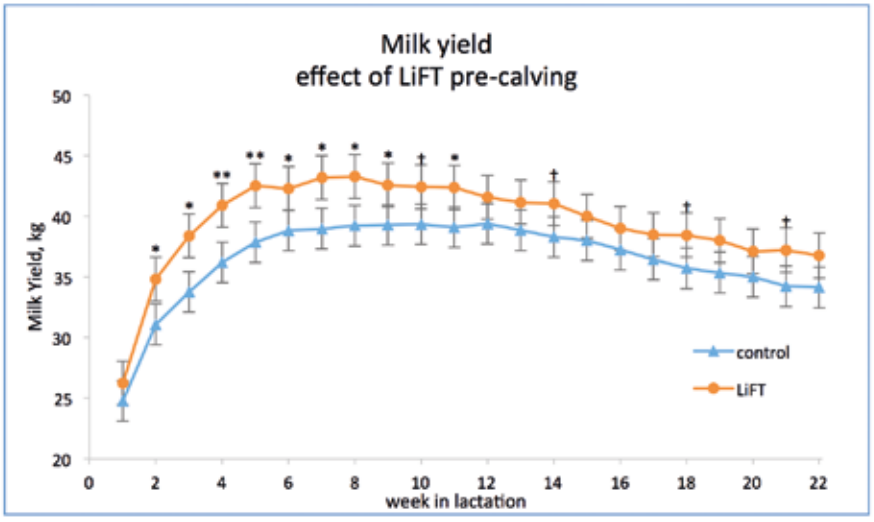
Post calving and early lactation is when cows typically mobilise a lot of body fat. This body fat must be processed in the liver, i.e. 'repackaged' by the liver and then sent out to the rest of the body as an energy source (e.g. to the udder for milk production). Often body fat is mobilised faster than the liver can cope with it, leading to a build-up of fat in the liver. This problem is compounded if the cow is over conditioned at calving.

Ideally cows should be at condition score 3 through the dry period to ensure good feed intakes and prevent problems like fatty liver at calving and in early lactation.

A proper strategy to prevent fatty liver should start when preparing cows for the dry period. Producers and nutritionists often spend a lot of time on rumen function – the 'engine' of the cow, but they should not overlook the liver – the 'gear box'. If liver function is impaired, due to fatty liver, it's like driving a car in first gear all the time.

Dry cow rations should be carefully formulated and ideally include specialised 'liver priming' nutrients. LiFT, a liver conditioning package that helps avoid the problems of fatty liver, has been developed and perfected over many years by leading global nutrition company Cargill. The active ingredients within LiFT work in a variety of ways to help the liver function much more cleanly and efficiently at this critical time. As shown below it helps with a variety of metabolic functions within the cow, unlike single source products used on farm such as rumen protected choline (RPC).





50 grams LiFT fed for 21 days pre calving

LiFT has been extensively trialled and one of the latest trials is shown below. LiFT typically increases in excess of two litres per head per day are seen in early lactation.

Other beneficial effects witnessed in trials are reduced cell counts (to the tune of 32%), fewer mastitis cases, reduced incidences of retained placentas and significant improvements in fertility.

The economic benefits can be as much as £200 per cow per year.

To ensure your cows benefit from better liver function ask your Advanced Nutrition contact how LiFT can become a key part of the dry cow programme on your farm.

LiFT
Liver Function Technology

Feeding to yield

As part of the changes made to improve efficiency at Barnfield Farm, Andrew Stephenson upgraded the parlour and in-parlour feeders Spring 2017.

Before the upgrade it was felt that the feed used in the parlour could be more accurately targeted to the early lactation and high yielding cows.

The feed to yield system was introduced in April. For the benefit of the computer the herd was split into cows and heifers, fresh cows, those under 60 days in milk and cows being fed to yield. Feed curves were devised for each of the 4 groups of cows.

The aim in early lactation is to ensure the cow can reach her true yield potential without compromising fertility. Therefore, her feed pattern will ensure she is receiving the maximum feed over a relatively short period of time and this will then be held until a specified number of days before switching her to feed to yield.

What has this resulted in?

- We have been able to target and monitor the performance of the early lactation cows to manage their energy requirements.
- Feed has been distributed more accurately throughout the herd, preventing later lactation cows being overfed and early lactation cows being underfed.

Have we saved feed?

The calculated average feed rate per litre for concentrates for the herd in the previous six months to changing the system was running at approximately 0.40kg/litre. Implementing the changes at the end of April has resulted in the feed rate reducing to an average of 0.35kg/litre over the last five months.

The main herd were housed for summer. There was a group that did graze with no buffer in the trough and with the feed to yield system's flexibility these were supplemented to maintain the milk they were producing in the varying weather conditions.

The average feed cost per litre for the six months to March 17 was 8.5p, with the improvement in feed rate concentrate cost for the months from April is 7.76p per litre.

The herd have averaged 27.5l/cow since the introduction of the feed to yield programme with the concentrate cost saving for the herd is £1075 per month.

The intention going forward is to continue to fine tune the system to further reduce the feed rate without compromising milk yield.

For more information on feeding to yield get in touch:
t: 01524 263 139 / e: office@arn-ltd.com

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Sil-All 4x4 is a leading natural biological silage preservative proven to increase milk yields across a range of forages and dry matters with it's unrivalled four bacteria and four enzyme formulation.

Benefits:-

- **contains enzymes to improve release of sugars**
- **covers a wide range of DM and crop species**
- **faster fermentation for better DM protection**
- **increased stability at feedout**

Pack size: 4 x 100g
Treated tons: Each 100g sachet treats 50TT

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