BIOTALK
Unleashing the value of your forage
February 2018

Don't let the Vitamin E crisis knock performance

Adding highly bioavailable selenium could help reduce the impact of potentially reduced vitamin E content in purchased concentrates, according to Mike Burns, Biotal Regional Business Manager in the North.

Vitamin E is an essential component of livestock diets performing a number of important functions. It is a key biological anti-oxidant, playing a major role in cell health. It is an essential nutrient for the normal function of the immune system, reducing disease risk and plays a key role in reproduction and the synthesis of prostaglandin. If vitamin E content in diets is reduced below the needs of the animal then performance whether growth, reproduction or yield will be at risk along with overall health.

The combination of a major fire at one of the world's primary producers of vitamin E and restricted supplies from China has created turmoil in the global supply of vitamin E. The resultant supply and price volatility will have repercussions at farm level.

Compounders and feed manufacturers routinely add vitamin E to finished feeds to ensure an adequate supply to livestock. With reduced global supply, it is inevitable there will be upward pressure on feed prices.

If inclusion rates are kept at the current levels designed to promote healthy and productive livestock, then it is likely compound feed prices will rise. The alternative will be to reduce inclusion rates, but this brings the risk of poorer health and performance, unless steps are taken to bolster the immune system.

One approach which is proven to be effective is to ensure adequate levels of bioavailable selenium are added to the diet as this is proven to improve an animal's anti-oxidant status and also improve the effectiveness of vitamin E in the diet. Alkosel Is an inactivated yeast enriched with selenium, making it an extremely efficient source of bioavailable selenium.

Vitamin E and selenium work in a complementary way to improve the anti-oxidant status of animals, enhancing their ability to manage oxidative stress. If vitamin E levels are reduced in diets, adding selenium enriched yeast will help ensure that the vitamin E in the diet is used as effectively as possible, reducing the risk of disease and helping support high production and fertility.

Alkosel is a key ingredient in Biotal SC oxycare, one of our range of rumen specific live yeast farm packs. Biotal SC oxycare is a convenient way to give TMR fed cows an anti-oxidant boost and combines the most effective rumen specific live yeast *Saccharomyes cerevisiae 1-1077*, highly bioavailable selenium and a unique melon extract rich in a natural anti-oxidant.

With pressure on vitamin E supply, adding Biotal SC oxycare can help ensure animals make the best use of the vitamin E in the diet to support an effective immune system.

Mike Burns
Biotal Regional Business Manager

DAIRY TECH 2018

DAIRY TECH

We will be exhibiting at the first ever Dairy Tech (stand B37), the major new event tailored for the new generation of dairy farmer, manager and technician: showcasing ground-breaking technology, inspiring uptake of the latest science- and field-based skills, introducing a fresh range of innovative products and services, and pioneering new global concepts in management efficiency.

Dairy Tech takes place at Stoneleigh Park on Wednesday 7th February and we look forward to meeting you to discuss how we can help you drive production from forage utilising some exciting exclusive developments in forage inoculants from Lallemand Animal Nutrition, which will form the basis of a ground breaking exciting new range of forage inoculants from Biotal.

Make 2018 the year you target

Although dairy farmers are still in the midst of winter feeding, first cut silage is only 3-4 months away for many farmers. Planning silage production carefully now will increase the contribution from forage in 2018 says Roy Eastlake, Biotal's National Technical Support Manager.

There is a saying that to be effective you need to focus on the things you can change, not the things you can't. With prospects for milk and feed prices currently uncertain given global market issues and exchange rate volatility, the focus needs to be on refining your system, looking for opportunities to drive margins by reducing the cost of production to insulate your business from external economic influences.

For dairy farmers this may include improving fertility, maximising milk quality to optimise milk price from the contract and reducing age at first calving. It should certainly include looking to increase production from forage and now is the time to plan to make more from forage next season.

All the evidence from dairy costings schemes demonstrates the fundamental link between increased milk from forage and higher margins. Many farmers can increase the contribution from conserved forage by planning and managing production more effectively.

While the most successful farmers are achieving 14kg forage DM/cow/day with an average energy content of 11.5MJ/kgDM, the average is closer to 10kg forage DM/cow/day at 10.5MJ/kgDM. It might be unrealistic to expect a jump from the average to the top immediately, but by aiming to reach the top you can increase your forage quality and intake which can have a big impact as the table shows.

If the average farmer made the same quality silage (10.5MJ) but managed to produce enough to feed 11kgDM compared to 10kg, the increase in milk from forage would be 400 litres per cow over a 200 day winter. If at the same time, forage quality was increased from 10.5MJ to 11MJ, this would increase potential milk from forage by another 200 litres. These benefits can either be realised as improved yield or a reduction in purchased feeds to suit your production profile.

Improvements of this order should be achievable on all dairy farms, but plans need to be in place quickly if you are to have more, better quality forage next winter.

Table 1 Effect of improving silage quality and quantity on litres from forage per cow for a 200 day winter

	10kgDM	11kgDM	12kgDM	13kgDM	14kgDM
10.0MJ	1396	1773	2188	2528	2905
10.5MJ	1584	1981	2415	2773	3169
11.MJ	1773	2188	2603	3018	3433
11.5MJ	1962	2396	2830	3264	3695

How is this season shaping up?

The start point for forage planning is an honest assessment of the current season, asking three questions.

How many kg forage DM are your cows getting per day?
If cows are grouped, work out the average for that group on a daily basis.

Have you got enough to ensure you can feed until you want to turn out as opposed to having to turn out?
In many cases, high daily forage intakes are achieved initially but have to be reduced as the winter unfolds, often due to high levels of clamp waste.

What is the average ME of forages being fed?
Not only will poorer quality forages reduce production from forage, they can also limit potential intakes.

Use the answers to help identify the forage gap and determine the best opportunities to improve.

- If you are feeding less than 12kgDM/day then there is an opportunity to make more.
- If you are making sufficient quantities but quality is low, the focus should be on making better
- Ensure more of what is made is fed. On a great many farms, wastage is a major drain on production from forage. The silage is made but then either has to be thrown away or quality deteriorates due to spoilage.

more from forage

How do you fill the gap?

1. Planning to make more

The objective is to make what you require, not what you can. Start by working out how much you need and make this your target. Determine the total tonnage you need. Be realistic about the yields of different cuts and crops and look at ways to improve yields, but not at the detriment of quality. There is no point creating a greater quantity of a poorer quality feed.

Some options to consider that can be incorporated into a forage rotation would be:

- Grazing tighter at turnout to increase the first cut acreage. This can also improve grazing output and quality
- Move to a multicut system for grass silage, taking first cut sooner and cutting more frequently. All the research shows this can increase grass silage quality and quantity compared to conventional 2-3 cut systems
- Reduce the forage risk and include fermented wholecrop in the rotation as a way to extend the forage area with a more flexible crop
- If maize is grown increase the area grown. If you don't grow maize, can you grow some economically?

Create a silage wedge of how much you need from each cut to hit your season's target and then monitor and react as the season unfolds. How can you manage forage production to increase the likelihood of achieving the season target? If you are ahead of target early in the season's, what are your options? If you are falling behind target production, what can you do to make up the shortfall?

2. Plan to make better

Most of the factors affecting forage quality are within the farmer's control. It is important to plan for quality as well as quantity, rather than quantity at the detriment of quality. Not only does better quality forage allow reduced levels of supplementary feeding, it can also boost forage intakes helping to improve rumen health.

Factors influencing quality include:

Cutting dates - make sure you are cutting when the crop is at its optimum, weather allowing. Take pre-cutting samples to monitor grass quality and talk to your contractor about your plans. The 'D' value of grass declines by up to 3 units per week equivalent to 0.5 MJ. Cut at the 'leafy growth' stage before heads start to emerge.

Plan management around your target cutting dates. Make sure that nitrogen applications are tailored to the planned cutting dates - if cutting sooner you may need to apply less. Take steps to minimise soil and slurry contamination.

Variety choice on wholecrop and maize. Selecting the right variety of maize can have a significant impact on yield and quality. Select for early maturity and high cell wall digestibility as well as starch. Crop selection can have a big impact on wholecrop performance - ask for a copy of our fermented wholecrop guide.

Focus silage making on maximising nutrient retention. Don't compromise at any stage. Having harvested the crop in optimum condition, use a Biotal crop and condition specific inoculant to achieve a rapid and efficient fermentation to ensure as much energy and protein is retained in the forage as possible and to reduce aerobic instability which is the major cause of wastage. Cover and seal the clamp thoroughly and don't open the clamps too soon – give the fermentation time to complete and ensure the best quality, stable feed.

3. Plan to cut waste

Waste continues to be a huge issue and many farmers could increase the silage available to feed simply by focussing on reducing waste, giving more feed for little additional cost. Each tonne of dry matter made will have cost around £100 so treat silage as the valuable asset it is. In many cases reducing waste can help fill a forage shortfall, delivering more of a high quality feed.

Total dry matter losses in grass silage range from 7-30%. In a clamp with 1000 tonnes fresh weight at 30% dry matter, each 10% waste will mean 30 tonnes of dry matter worth £3000 is thrown away and has to be replaced with purchased feeds.

Plan now to reduce waste next year:

- Use a Biotal crop and condition specific inoculant to ensure a rapid fermentation and aerobic stability
- Sheet the clamp to make it as airtight as possible
- Keep the feed face clean
- Use a block cutter with sharp knives
- Don't feed waste silage – it just contaminates the rest of the diet causing reduced intakes and nutritional problems.

Conclusion

It is often said that 'Failing to plan is planning to fail'. Investing time now and planning for next season, setting benchmarks and targets will put you in a better position to produce milk economically, irrespective of what milk prices look like next winter.

In future articles we will explore the steps as outlined above in greater detail so keep an eye out for these in the farming press.

New Regional Business Manager appointed

Csaba Adamik, who has been appointed Lallemand Animal Nutrition Regional Business Manager for Scotland, will be a familiar face to farmers across the region as he brings considerable experience gained over many years.

A member of the AIC Feed Advisor Register, Csaba worked as a ruminant nutritional advisor in South West Scotland with Davidsons Animal Feeds for four years before spending seven years as a ruminant technical sales specialist with Cargill Animal Nutrition, covering all of Scotland. Most recently he has been employed as a Senior Dairy Consultant with SRUC.

Before moving to Scotland he worked in the USA and his native Hungary.

"I am looking forward to helping farmers in Scotland, offering nutritional solutions from Lallemand Animal Nutrition and improving quality and utilisation of forages and home grown feeds, using the range of Biotal products," Csaba comments. *"Shortage of good quality forage is a serious concern in many regions of Scotland, as farmers are facing a very challenging winter this year. Focusing on improved forage quality will help us be in a better position going forward."*

Rumen specific live yeast key to high productivity

For six years, Biotal SC rumen specific live yeast has been an integral part of the system at Henllys Farm, Borth near Aberystwyth where the 290 all year round calving cows are averaging 9000 litres with a pregnancy rate of 24% and a 390 day calving interval.

"We feed yeast to improve rumen health and rumen efficiency," comments Gerald Watkins who runs the farm with his brother Simon. "I am sure not feeding anything in the parlour helps reduce acidosis risk, but the yeast also plays a key role in maintaining a stable pH for better digestion."

Improving fertility has been a big objective and while cows will graze during the summer, they are only turned out once confirmed in calf. *"Fertility has a big impact on profitability, so we minimise changes until cows are in calf. We use RMS on both the cows and heifers and have seen the calving interval tighten."*

Consistency of management is also applied to the diet. The cows are fed a TMR once a day and which is pushed up four times a day. A high yielder ration worth M+30 litres and a low yield diet worth M+20 are fed with consistent ingredients used across both diets. There is no parlour feeding.

Both diets comprise grass silage, fermented wholecrop, fodder beet, a blend, bread waste, fat, minerals and Biotal SC toxisorb.

Forage intakes are 11.5kgDM/cow/day on the high diet and 12kgDM on the low yielder ration. The grazing buffer feed, fed at night, is also based on the same ingredients.

In previous years they have fed crimped maize, but the economics favoured bread as a source of starch this year.

"Fodder beet is great for milk quality which is important as we are on a constituent based contract. We are currently averaging 4.0% fat and 3.4% protein," Gerald continues, *"We have grown our own in the past but now buy it in, and pre-chop it before including in the diet.*

"Wholecrop works well here. It gives a good lead into a reseed and is more consistent than maize which we grew in the past. Being high dry matter it is a way of making full use of our clamp capacity and reduces transport costs. We grow around 60 acres of spring wheat, but will be increasing to 80 acres as we have rented more ground so we have plenty to feed all year round."

Attention to detail is key when silage making, with the objective of high quality forage (see table). All silages are ensiled using Biotal crop and condition specific inoculants.
All clamps have side sheets which overlap on top of the clamp, and are topped with a proven oxygen barrier, the previous year's plastic sheet and finally a new plastic sheet. Waste is minimal.


Gerald Watkins with Biotal's Gareth Jones

To achieve high forage intake it is essential to optimise rumen function and digestion of fibre, so Gerald adds 25g/cow/day of Biotal SC toxisorb to the TMR.

"Live yeast plays a vital role in the rumen," explains Biotal Regional Business Manager, Gareth Jones. *"It scavenges oxygen and creates the conditions in the rumen that favour specific fibre degrading micro-organisms. By increasing the activity of bacteria that utilise lactic acid while reducing the activity of bacteria that produce lactic acid it helps minimise falls in rumen pH.*

"Gerald uses Biotal SC toxisorb because he wants to reduce the potential risk of problems caused by mycotoxins. In addition to the rumen specific live yeast, toxisorb contains MOS and β-glucans from yeast cell walls which have the capacity to fix undesirable substances such as certain toxins and pathogens in the digestive tract. They also support rumen function.

"With two silages clamps open at any one time plus a clamp of bread waste, the additional cost of Biotal SC toxisorb over a straight rumen specific live yeast is seen as a sound investment to ensure cows perform to their potential."

2017 silage analysis

	First cut grass	Fermented wholecrop
Dry matter (%)	40.0	33.0
Crude protein (%)	16.7	9.0
D value (%)	76	
ME (MJ/kgDM)	12.2	9.8
Starch (%)		25.1

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