



## Inoculants just as important when the sun shines!

**Everyone hopes for warm sunny, dry weather when silage making is underway as it helps encourage an effective wilt and mean the crop is gathered in good conditions, as Luís Queirós, Global Forage Manager with Lallemand Animal Nutrition explains.**

I also often hear it said that good weather means it is possible to save on inoculant. But inoculants are just as important, if not more important if conditions at harvesting are good. Why?

While it is true that in drier sunnier conditions more sugar could be present providing more fuel for the good bacteria, it will also fuel the bad microbes too. Grass always has spoilage yeasts, moulds and bacteria on it whether it is cut in wet or dry conditions. You never know how many. If they are allowed to dominate the naturally occurring beneficial bacteria, they will cause a poor fermentation, leading to an unstable silage with fewer nutrients.

By using a Biotalk inoculant you provide sufficient good bacteria to ensure a rapid initial lactic acid fermentation and suppress the activity of bad bacteria.

In warmer weather grass dry matters tend to be higher which increases the risk of aerobic spoilage at feed out. Using a bacterial inoculant proven to kill the yeast and moulds that cause this instability will help preserve valuable nutrients and significantly reduce wastage.

Axcool and Axphast, Biotalk's crop and condition specific inoculants for grass silage provide high populations of bacteria to dominate the fermentation and quickly convert sugars into lactic acid, reducing the pH in the clamp and stabilises the silage.

By achieving the stable pH quicker less sugar is used in the fermentation resulting in a higher energy silage with less loss of other nutrients

Our specific bacteria *L. buchneri* 40788 is proven to significantly improve clamp aerobic stability. Reducing spoilage after the clamp is open means more of the silage you have made can actually be fed.

Don't be taken in by hot, sunny silaging days. Our crop and condition specific inoculants will help you maximise the conservation of nutrients, whatever the weather.



Luís Queirós



# Pre-cut analysis - taking the guesswork out of cutting dates

**First cut is just round the corner so now is the time to think about cutting dates. Pre-cut grass testing will help you make a better decision and improve the quality of silage produced.**

How you manage your grass from now to harvest, whether on an Opticut or traditional system will influence the quality of forage you produce. Timing of fertiliser applications and the quantity applied as well as the weather will influence cutting date. Timing of cutting itself has a big effect on quality, especially the level of digestible NDF but how do you decide when to go?

To produce high quality silage and reduce losses you must achieve a rapid fermentation of sugars to lactic acid, which will be influenced by the number of lactic acid producing bacteria available but also by the chemical composition of the grass.

You can't tell if grass is at the optimum growth stage for cutting just by looking at it, although if it is showing signs of ear emergence you can be certain quality is already declining. To time cutting better and increase the prospects of making high quality forage you need data on how the crop is maturing. Pre-cut testing, previously seen as just a way to assess fermentation characteristics, is the simple and effective way to do this.

Weekly sampling of fields from at least two weeks prior to the anticipated cutting date will indicate how the crop may ferment and the potential feed value. It can also help with choosing the most suitable crop and condition specific inoculant. So what are you looking at?

## **20% DM**

Fresh grass at 20% DM will lose moisture at 1% per hour in sunny, breezy conditions, meaning grass can be at the optimum 30% for ensiling after a 10-12 hour wilt.

## **Minimum 15% sugars in dry matter**

Sugar is the fuel for fermentation. As grass ferments so sugars are used up. The higher the initial sugars, the more effective the fermentation will be, especially if supported by a crop and condition specific inoculant. This will also lead to higher sugars in the finished silage, ensuring a higher energy feed.

## **Free nitrates less than 1000mg/kgDM and protein less than 16%DM**

Free nitrates, where nitrogen has not been converted into protein, and crude protein both have a buffering capacity, slowing the rapid fall in pH needed for a stable fermentation.

## **38-42% NDF**

NDF is the guide to how well a plant is maturing and increases rapidly as the plant matures. NDF levels above 42% indicate grass is maturing and feed value will decline.

## **Choose the appropriate crop and condition specific inoculant**

Knowing the quality of grass will also help make sure you select the most appropriate inoculant. If the dry matter on material entering the clamp is less than 30%DM more lactic acid will need to be produced to achieve a stable fermentation so use Biotaxphast. The combination of four strains of bacteria works together to give a rapid acidification of the forage while high enzyme levels release additional sugars to power the fermentation and increase digestibility.

If the crop is drier it will be more prone to aerobic instability at feedout. To prevent this you need Biotaxcool which contains a combination of bacteria for the rapid preservation of grass to maximise nutrient value and also control yeasts and moulds during feedout to reduce heating and dry matter losses.



*Lientjie Du Plooy*



## DATES FOR YOUR DIARY



We will be exhibiting at the following events this summer so why not come along and find out about the latest developments from Lallemand Animal Nutrition and how we can help you take control with forage.

**6-8th June**      **Royal Cornwall Show**      **Wadebridge Showground PL27 7JE**



**19-20th June**      **Total Dairy**      **The Crowne Plaza Hotel, Stratford-upon-Avon**

**We're looking forward to seeing you there!**



# The importance of digestible ndf

Many farmers will want to focus on maximising quantity of silage produced this year, but this can work against the objective of increasing production from forage to reduce costs of production.

Producing fewer, but heavier cuts may be a way to fill the clamps but it is not the way to maximise the contribution of forage to your business. This is because it goes against the reason why grass is grown in the first place, which is to produce a fibre-based digestible energy feed.

While grass is a source of protein, it is primarily an energy feed. The energy in grass silage is available as fibre, analysed as Neutral Detergent Fibre (NDF)

As a plant matures two things happen. Firstly, the total fibre content (NDF) increases and secondly the proportion of indigestible lignin increases, leading to a fall in overall NDF digestibility and a poorer quality feed. The lignin also binds with some of the cellulose and hemicellulose, making it pass through the cow undigested.



This indigestible fibre has the effect of slowing down rumen flow which will reduce dry matter intakes and ultimately reduce the production from forage.

The goal when making grass silage is to maximise the digestible fibre (NDFd), which is the proportion of the fibre that cows can use. High NDFd forages are digested more quickly in the rumen, promoting higher dry matter intakes.

Research shows that every 5% increase in NDFd increases dry matter intake by 0.63kg/d and milk yield by 0.9L/cow/d. As both lignin content and NDFd are now commonly included on silage analyses,

I advise looking to produce silage with a lignin content of less than 30g/kg dry matter and NDFd above 75%.

Leaving grass to bulk up to increase quantity of forage at the expense of fibre digestibility will reduce production from forage. The cost of supplementing poorer quality forages will have a big impact on your production costs.



Roy Eastlake

## Make sure your inoculant goes on at the correct rate

An effective fermentation starts by applying the inoculant at the correct rate consistently across the whole crop. Every tonne needs to be treated the same.



Rob Sheppard

Rob Sheppard from Selmech Supplies explains given the wide choice of silage inoculants available, with application rates ranging from 20ml up

to five or more litres per tonne, the selection of the right applicator and correct calibration are of great importance as they will ensure the accurate application of the chosen inoculant.

There are several factors affecting the proper treatment of crops including coverage, application point and application rate as well as choosing the right product for the



conditions. The truth is that unless you are using an applicator that is calibrated correctly the results will most likely be inconsistent and disappointing.

Historically calibration of the applicator would be determined by pumping the inoculant into a measuring vessel for a given period of time and then repeating this process for different dial settings on the control box. This information would then be

used to set your output depending on the required application rate of the additive and the pickup rate of the forage. The use of a flowmeter giving a visual indicator of the flow greatly helps in this set up.

In recent years Selmech Supplies have developed a new range of digital applicators that have built in calibration factors. Not only does this make it much easier for the end user to ensure that they are applying the correct amount of inoculant as directed by the supplier, but also more importantly they take away the need to carry out manual trial and error calibration routines.

It is still important to choose the correct applicator for the application rate of the inoculant being used, but as long as you get that right you can be confident that the applicator will deliver accurately, ensuring that you get the best return on the investment you have made in making top quality forage.

# Sticking to the plan key to opticut success

Cumbrian dairy farmer Michael Wilson who runs the Blackcombe herd at Monk Foss Farm, Millom with his partner Laura Teasdale, his brother Brian and parents John and Isobel is convinced of the benefits on increasing grass silage cutting frequency.



Michael Wilson

The herd of 240 Montbeliardes averages 8880 litres at 4.45% butterfat and 3.56% protein. 58% of all production is from forage, equal to over 5000 litres per cow. Quality forage is at the heart of the system.

***"We have always targeted cutting early and making four cuts,"*** Michael explains. ***"In 2018 we made the decision to follow the Opticut approach and despite the season made more silage which analysed more consistently than the previous regime."***

Mike Burns from Lallemand Animal nutrition explains that the Opticut system involves taking first cut earlier in the season and then cutting at shorter intervals, ideally around 28 days.

***"The objective with Opticut is to maximise the yield of high quality grass while managing risk and working to minimise field losses. You are looking to produce more consistent feed across the season, so it is like clamping grazing quality grass with high digestibility."***

***"The key to successful Opticut is planning,"*** Michael continues. ***"You have got to set a plan and stick with it. You also have to plan early to make sure you aren't over-applying fertiliser and aren't faced with excess free Nitrogen when you cut the crop."***

***"I make sure I talk to the contractor early too so he knows my target dates and we can work towards them."***

Michael mows and teds his own grass and the contractor picks it up using forage wagons. It is all treated with either Biotol Supersile or Biotol Axcool depending on the dry matter of the grass being picked up. Michael aims to have grass down no longer than 24 hours to reduce field losses.

As soon as the grass has been picked up he follows up with 45-50 units of nitrogen and a light application of slurry.

While first and second cut went well, third cut was very small due to the hot, dry weather but he still cut on the target date, resisting the

temptation to cut late to allow it to bulk up.

***"A key fundamental of Opticut is season long production. Having already started to go to head, there was no way the third cut would have bulked up if I left it, and this would have reduced fourth and fifth cut."***

***"So we took the three lightest fields as big bales and clamped a smaller third cut. But as a result, we had fertilised aftermaths when it rained and our fourth cut was the heaviest we produced."***

***"The cows are milking well and we haven't seen any reaction whenever we have changed between cuts which tells me all I need to know about the quality of the forages."***

***"In the past we used to end the winter short of forage with fewer cows, but moving to more frequent cutting has meant we have sufficient forage for more cows, and from the same acreage."***

***"Success with Opticut is about developing and committing to a plan, and not wavering as the season unfolds. If I had panicked at third cut and delaying taking the cut I would not have gained much third cut and the smaller fourth and fifth cuts would mean total forage produced would be less."***

***"Develop a plan, get your contractor on board and then live the plan. It worked for us in West Cumbria, even in a challenging year and I will be sticking with the system,"*** Michael concludes.



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