



## ACTISAF MAINTAINS RUMEN FUNCTION DURING CHANGES IN DIET

Diet changes and forage variability are inevitable parts of any dairy business, often leading to digestive upset, acidosis and subsequent losses in milk production which often go unseen. However, these negative effects can be avoided managing diet changes and by optimising the rumen environment.

Martyn Smith is herd manager at Churchfields Farm where he milks a closed herd of 100 pedigree Holstein cows on 250 acres in Droitwich, Worcestershire. The year-round calving herd are turned out to grass in spring and graze at least 180 days per year.

When housed, the herd's diet is calculated for maintenance plus 25 litres fed down the trough, and cows are topped up to yield with GLW Feed's Ruby 18 concentrate in the parlour, containing high levels of starch to complement this year's more fibrous forage. Dry matter intakes from forage are at 15-16 kg/head/day, with total dry matter intakes at 24-25 kg/head/day. While grazing, cows are strategically fed buffer feed to maintain performance and to cope with variable grass availability.

Cows are milked twice daily, and annual 305-day yields are at 9,000 litres with 4.3% fats and 3.44% protein, with around 4,000 litres coming from forage. This excellent performance does not come at the expense of fertility – Martyn's herd boast an average calving interval of 383 days.

"We believe in quality over quantity in most aspects of the business, but especially when it comes to the cows. Genetics are selected to produce good milk constituents rather than just higher yields, and we aim to keep inputs low," explained Martyn. "I prefer to keep protocols simple and I'm critical of products that we use."

Since taking over management of the farm in 2014, he has focused

on developing a simple system based on good quality forage, focused breeding, proper nutrition and keeping stress levels low. The herd's health and welfare are top priority, with routine checks by the vet every two weeks keeping treatment needs to a minimum. Martyn's proactive approach is paying off with SCC levels at 80-150 and bactoscan count of 9.

"Our focus on producing high quality forage is really paying dividends. We feed a 50/50 grass and maize silage for most of the year and buffer feed as needed when grazing. As maize is such a crucial part of the diet, we would ideally have a supply year-round. But because of the lack of land available in this area, we have not had quite enough maize for the last few years and had to feed green maize for a period in the autumn," he said.

"The cows struggled to manage that change, and we had problems with displaced abomasums and acidosis. We decided to have Actisaf added into a bespoke blend from GLW Feeds and saw improvement almost immediately."

Martyn's wife Lyn is a ruminant technical support specialist at GLW Feeds and believes that Actisaf plays a key role in supporting the herd through diet changes. "Actisaf is included in the wagon at a rate of up to 8 g/head/day, keeping rumen function steady with no setbacks through diet transitions. It's a critical tool for Martyn in maintaining milk production with our forage challenges and it fits into this system well."

"We added Actisaf again for a second year with the green maize and left it in our ration for good after that," Martyn concludes. "In the two years since, we've had zero displaced abomasums and no incidents of acidosis - I'm would definitely think twice before taking it out of our diet!"

### Contact us...

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# GETTING THE BEST FROM YOUR SILAGE THIS WINTER...

Feeding cows for performance through the winter is always a challenge and this year may be more difficult than some. Thankfully, there is plenty of forage in clamps and yards, but many second and later cuts of grass silages this year are fibrous, which can reduce performance as they typically contain more lignin, a type of fibre that cannot be digested by the bugs within the rumen.

Many grass silage crops have analysed at less than 11 MJ ME/kg DM, which is significant considering that the difference between 10.3 ME silage and 11 ME silage will be equivalent to approximately 1.5 litres milk/cow/day (assuming a feed rate of 11 kg DM of silage/day).

Not only will forage quality be a challenge for many dairy herds but preserved forages are also highly variable, something that is almost impossible to avoid but can have a big impact on rumen function and performance.

## Forage variability is inevitable

With different fields having different grass mixes and grass maturity, it's inevitable that there will be some variability even within a single cut in the clamp. Some farmers then store more than one cut within the same clamp, adding to a range within each grab-full at feeding time. Add to this the spectrum of different forages fed (e.g. grass silage, maize, whole crop), and the variability within those forages, and the reality is that the nutritional variation within the forage part of a dairy ration is potentially massive every day.

What is clear, then, is that it is actually quite hard to feed the same ration every day and yet we know that consistency is king for optimal digestion and rumen fermentation – helping to maintain high feed intakes, minimise digestive upsets and promote good fertility and consistent milk solids yield.

## Why does variability matter?

Inconsistency in forage has a significant impact on the nutritional composition of the ration presented to cows each day. It is important to remember that when we feed a ruminant we are really feeding the bugs within the rumen, which in turn feed the cows. Trials have shown that these bacterial populations take time to adapt to a new

diet – typically up to three weeks.

If the forage being presented to the cows is highly variable, the rumen microbes will become unstable as they have to adapt to these changes frequently, causing rumen function – and subsequently the cow's performance – to decrease. There are some simple practical things that can be done to help maximise performance this winter:

### Sample forages regularly

One thing that can make a real difference is regular forage sampling. Gaining a better understanding of the quality and makeup of forage stores can help you deliver as consistent a feed ration as possible. While a silage core sample will usually be taken by a nutritionist at the start of the winter, it is important to analyse clamp faces at least once a month and ensure that samples taken are representative of forage across the whole clamp face.

This will enable you to identify any variation in forage quality and make necessary adjustments to feed rations to maintain consistency. Change the formulation of the blend or compound feed based on the digestibility and nutrient analysis of the forage (e.g. faster and slower starches, faster and slower proteins, protein content, fibre levels).

### Introduce new silage cuts gradually and feed consistently

It pays dividends to ensure that you are presenting mixed rations in the most consistent way. Do not overload feeder wagons and ensure that the wagon is loaded in the correct order (smallest first) and mixed for the same amount of time each day to ensure mix consistency. Structural fibre, such as straw, must be adequately chopped (to the width of a cow's muzzle) to reduce sorting and feed must be distributed evenly along the feed barrier to encourage intakes.

Where dietary changes are happening or there are changes onto a different clamp of silage this should be phased in to allow the rumen bugs to adapt. Introduce some of the new forage over the course of a 3 week period before running out of the existing forage. Don't run out and switch overnight where possible.

### Look for signs of digestive upset in the herd

There are several CowSignals that can alert us to potential issues like Sub Acute Rumen Acidosis (SARA) and digestive upset:

- Assess rumen fill 2-3 hours after milking to determine whether adequate forage has been allocated
- Monitor cudging rate – look for more than 65% of the herd to be lying down, chewing the cud 2-3 hours after milking
- Check dung consistency – loose, bubbly dung with undigested fibre in it is indicative of poor rumen function (as is the presence of cud balls in collecting yards or cubicles). If you see long fibres in dung, contact your nutritionist.
- Monitor body condition – cows losing excessive body condition can point to insufficient feed intake, a possible metabolic disorder, health issue or sub-optimal rumen function.

### Feed Actisaf® live yeast

Feeding Actisaf® live yeast can deliver real benefits when you are facing highly variable forage in the winter, particularly if that silage has high fibre levels.

Trials have shown that Actisaf® reduces the bacterial diversity in the rumen and promotes the growth of beneficial bacteria, as well as stabilising rumen bacterial populations during diet changes. This allows for faster adjustment to new diet composition or ingredients and minimises any losses in production that would otherwise occur.

Specifically, we see an increase in lactate-utilising bacteria, which reduces lactic acid and helps stabilise pH in the rumen, as well as an increase in fibre-digesting bacteria. One trial published in the Journal of Dairy Science (Marden et al, 2008) demonstrated that neutral detergent fibre (NDF, the most common measure of fibre in forage) digestibility was greater when diets were supplemented with Actisaf® live yeast compared to a control or a diet where sodium bicarbonate was fed as a rumen buffer. Similarly, acid detergent fibre (ADF), which represents the least digestible fibre portion) digestibility was also greatest in a diet supplemented with Actisaf®.

	Actisaf® Live Yeast	Sodium Bicarbonate	Control Diet
NDF digested	41.6%	34.3%	29.6%
ADF digested	32.3%	24.4%	18.1%

Marden et al 2018

Through its mode of action, Actisaf® offers many advantages through the winter feeding period, particularly when forages are likely to be more fibrous as they are this year for many farmers. It also improves feed conversion efficiency, with trial results demonstrating an average increase in milk yield of 1.5kg/day, and commonly up to 3kg/day!

## ACTISAF® TRIAL SUMMARY

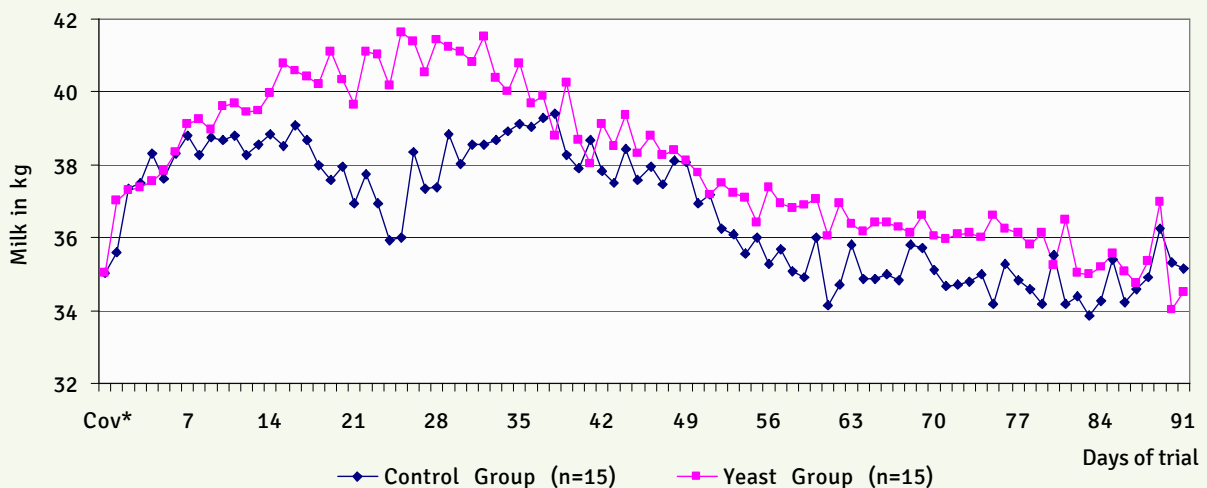
**A study conducted in France has shown that supplementing dairy cows with Actisaf® live yeast during diet change prevented a dip in production.**

Early lactation cows from the same commercial herd were allocated into a control group and an Actisaf® group for a thirteen week period. The rolling herd average production was 11,930kg at 4.0% fat and 3.2% protein and at the start of the trial cows in the trial groups averaged around 40 days in milk.

Both groups were fed the same base mixed ration ad lib, which was formulated for M+30. Cows were also fed to yield with two different compound feeds through the robot milkers.

During the period of the trial no other feed additives (such as buffers, etc.) were used and all cows received the control group ration prior to the start of the trial.

Part way through the trial the grass silage was changed to a grass silage lower in digestibility and feeding Actisaf® proved to be efficient at maintaining consistent milk yield even during this change, as shown on the graph, whilst cows in the control group saw milk yield reduce by as much as 4kg/day.



\*= Period prior to supplementation

# HELP YOUR HERD MANAGE THE TRANSITION PERIOD WITH ACTISAF®



The transition period is demanding, as nutrient requirements increase whilst dry matter intake is limiting relative to milk output, leading to body weight loss as a negative energy balance is imposed on the cow. What's more, the immune system of the cow is challenged at this time and typically a cow's immune response elicits a non-specific systemic inflammatory response in the cow, which requires energy – something the cow is in short supply of at that time.

Ultimately, this increases the risk of metabolic disorders like ketosis and problems such as reduced milk yield and poor fertility, which impacts your bottom line. Combine this with the potential for poor rumen function caused by the change from transition or dry cow to lactating diets and you have a major challenge!

Luckily, research proves that Actisaf® can help. Feeding 10g of Actisaf® live yeast 21 days pre-calving and 21 days post-calving improves rumen function and lowers the risk of acidosis, providing the cow with more much-needed glucogenic energy, helping to overcome energy deficits and subsequently improving performance.

Find out more at [www.yeastolutions.co.uk](http://www.yeastolutions.co.uk) or call us at 028 9334 3900.

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