YEAST SOLUTIONS

ISSUE 16 – SUMMER

ACTISAF HELPS BALANCE HIGH PERFORMANCE RATION

One of the challenges of managing high yielding dairy cows is getting the balance right between rumen health and performance. Feed too much starch and cows can skate on the edge of sub acute rumen acidosis, but keep the ration too tame and milk output and cow fertility can suffer.

This is exactly the problem that dairy farmer, Neil Parkhouse (pictured above), faced. Neil farms at Treveor, Gorran in Cornwall and his herd of 600 cows is milked three times a day. Cows are housed all year around and have averaged around 11,300 litres/cow/year, although yields have dropped back slightly as Neil has sought to maximise the returns from his milk contract.

"We supply milk to Dairy Crest at Davidstow and so we are paid on a compositional basis," he explained. "As such it is in our interests to improve fat and protein levels, even if this means a slight reduction in yield."

Whilst yields have dropped back slightly to 11,100 litres/cow/year, fat has increased from 3.55 per cent to 4.1 per cent, which has more than made up the difference financially.

Herd performance is excellent, with a calving index of 384 days and an average days in milk of around 150 excluding culls. Neil has a strict culling policy for fertility, with a 'three serves and their out' approach keeping calving patterns tight.

Cows are fed a mixed ration to provide M+34 litres and then topped up to yield through out of parlour feeders, with the maximum supplementation of concentrate being capped at 9kg/cow/day. Despite a single TMR ration, cows are managed in three groups – highs, lows and heifers – and cows are typically dried off giving around 28 litres/day.

"Cows are typically eating 19-20 kg/DM of mixed ration each day and we are really trying to push forage intake," Neil said.

The ration comprises grass silage, maize silage, straw, soya, molasses, home grown barley and rape extract. Neil takes four cuts of grass silage each year and focuses on quality rather than quantity with each cut. Megalac is fed for energy and cows are on a mineral pack, which includes Actisaf live yeast.

"We added Actisaf on the advice of our Mole Valley Feed rep, Dave Higman, and Mole Valley's senior nutritionist, Dr. Robin Hawkey, as we were seeing a few issues with sub acute rumen acidosis," Neil explained.

"We work on a vet contract and have used eCow boluses to monitor rumen pH in the past, which showed some problems with rumen pH falling below 5.8 and spiking quite badly after feeding time. We tried adding a chemical buffer to see if that would help address the problem, but it didn't really help so Dave suggested we tried feeding Actisaf instead of the buffers. Actisaf definitely worked – rumen pH settled down and both dung scores and cudding scores improved."

As a result, Actisaf is now a core component of Neil's mineral pack and is there to stay. "Actisaf definitely took the edge off the SARA issues that we were witnessing within 3 or 4 weeks of starting to feed it. What's more, milk yields improved by around 1 litre/cow/day as well," Neil concluded. "We were impressed and it is now something that we always include in the ration."

Phileo
LESAFFRE ANIMAL CARE

MAXIMISE THE FEED EFFICIENCY OF YOUR HERD THIS WINTER

Feed and Feeding

With low milk prices set to continue through this winter and into early spring, optimising feed efficiency within dairy herds will be crucial if you are going to maintain a margin over feed costs.

Effective feed management, a better understanding of rumen function, and attention to ration composition, will all play a role in helping you to maximise yields from feed.

Feed efficiency

Feed efficiency is a measure of the amount of energy corrected milk (ECM) that is produced from one kilogram of dry matter feed, expressed as a ratio. The higher the ratio, the better the rate of feed efficiency.

For example, if a herd is producing 30 litres of ECM and consuming 20 kg of dry matter to achieve this yield, the feed efficiency of the herd is 1.5 (30 ÷ 20 = 1.5). If milk yield increased to 31 litres and intake remained the same, then the feed efficiency would increase to 1.55.

Increasing milk output for the same amount of feed enhances a farm's income over feed costs, as there is more milk produced from the same amount of feed consumed; diluting the maintenance cost of each cow and spreading feed costs over more litres of milk.

Figure one (below) outlines feed efficiency guidelines for dairy herds. Remember that first and second lactation cows will be less feed efficient as they are still directing energy towards growth. Similarly, mature cows past peak production will divert increasing amounts of energy towards bodyweight gain.

Feeding the rumen

Rumen microbes are responsible for fermenting feed and producing fatty acids and microbial protein. These energy sources fuel a cow's maintenance, lactation and reproductive performance. To improve feed efficiency, it is, therefore, essential to optimise the performance of rumen microbes.

High milk yields present a challenge in modern, high performing herds and in order to promote the high feed intakes needed to achieve these yields, the feeding of relatively low fibre diets (usually in the range of <35% NDF), which also contain a large proportion of concentrates, is required. This results in very high rates of feed passing through the rumen, which can result in sub-optimal digestion by the rumen microbes. As a result, more feed can end up passing out in the dung rather than being digested and absorbed as an energy source in the rumen.

These high intakes can also promote sub-acute rumen acidosis (SARA), a mild form of acidosis, which results in digestive upset, reduced feed intakes and depressed milk yields.

Rumen microbes flourish on being fed a stable, well balanced diet, day in, day out.

Figure 1

Group	Days in milk	Feed efficiency (energy corrected milk)
One group all cows	150-225	1.4-1.6
1st lactation	<90	1.5-1.7
1st lactation	>200	1.2-1.4
2nd + lactation	<90	1.6-1.8
2nd + lactation	>200	1.3-1.5

Adapted from: Penn State University (2011)

This ensures maximum feed digestion and the production of higher levels of microbial crude protein.

As such, diet changes should be made over a gradual period of time (usually over a two to three week period) to ensure that rumen microbes can adapt to changes in diet, with minimal impact on performance.

Feed management

As explained above, rumen microbes thrive on consistency, so it makes sense that cows will perform best if diets are stable, with as little content variation as possible. By keeping feed rations stable during the winter period, you can help maintain high feed intakes, minimise digestive upsets and improve milk yields.

Forages by their nature are inherently variable, and the variability they create in a cow's diet on a day-to-day basis can negatively impact feed utilisation. 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. This will enable you to identify any variation in forage quality and make necessary adjustments to feed rations to maintain consistency.

In particular, pay attention to the fermentation characteristics of forage analysis, as high readings of volatile fatty acids can be a sign of poor fermentation, which could adversely affect palatability.

When it comes to changing silage clamps, ensure that the new clamp is opened before the back wall of the other clamp is visible. An overnight switch from feeding from one clamp to another can negatively impact rumen digestion.

It is inevitable that there will be compositional changes in clamps of forage over the course of the winter. By measuring the quantity of silage in all clamps, on a dry matter basis, and drawing up a budget for the winter (based on the quantity and quality of forage that will be fed to each animal on a daily basis), nutritional deficits can be identified and alternative feeds secured if required.

If you are buying in moist by-products it is important that contracts secured at the start of the winter guarantee supply, as on/off supplies lead to changes in a cow's diet and subsequent digestive upset.

Ration consistency and presentation

Just as minimising compositional variation of feed is important, managing feed delivery is also essential when trying to maximise feed utilisation. By properly presenting cows with well mixed feed, you can reduce levels of sorting and encourage higher feed intakes.

To ensure the optimum presentation of feed, do not overload feeder wagons and make sure that feed components are mixed in the correct order, with the smallest being loaded first and the largest added last.

It is also advised that the feeder wagon mixes for the same amount of time each day, at the same RPM, to ensure that the mix is as similar as possible every day.

Ensuring that structural fibre, such as straw, is adequately chopped (to the width of a cow's muzzle) will also help reduce intestinal upsets and sorting. Using pre-chopped straw, either by a forage harvester or specialist straw chopper, is therefore strongly advised.

TMRs and PMRs must be distributed all the way along, and pushed up against, feed barrier spaces to reduce competition for access to feed. This will minimise the risk of bullying from cows and encourage higher intakes.

It is absolutely essential that cows are not left without feed, as this can promote gorging when food is reintroduced and result in cow's suffering from acidosis.

In the next edition of Yeast Solutions we will focus on how cow care and Actisaf supplementation can also help you to boost feed efficiency and minimise the impact of low milk prices this winter...

Ed Evans

Jackie Evans

FEEDING ACTISAF YEAST HELPS MAINTAIN HIGH PERFORMANCE

With the backdrop of low milk prices, Ed Evans is like most dairy farmers in his desire to optimise the performance of his 190 strong, Holstein Friesian dairy herd.

Situated in Dingestow, Monmouth, Bourne Farm is producing an average of 9,300 litres milk/cow/year supplying Arla, from a diet that maximises the use of homegrown forages . During winter cows are fed a semi-TMR ration, based on homegrown grass and maize silage and fed to yield using a combination of in, and out of parlour feeders. When the herd is turned out to grass in spring, Ed buffer feeds with straw, silage and concentrates.

"The herd is split into two distinct groups," Ed explained, "and we aim to feed high yielders at M+ 30 and the low yielders M+ 18. I know that we push our cows quite hard, so I wanted to add something to their diet to help improve rumen function, cut out the risk of acidosis and maintain cow performance".

On the advice of his nutrition specialist, John Parker from Select Nutrition, Ed is now using TendaHoof FX, which contains Actisaf live yeast and which is fed to the entire herd to help manage lameness, maintain rumen health and promote improved feed efficiency.

"The product is fed at a rate of one sachet per 50 cows, per day," explained Ed, "It is really convenient and I am amazed by how such a small amount of product can have such a big impact".

Since using TendaHoof FX Ed has seen a dramatic reduction in cases of lameness, with the Actisaf also ensuring the optimal rumen performance of his cows.

"The addition of Actisaf to TendaHoof FX has helped to maintain the consistency of each cow's gut," said Ed. "This means that intakes have increased, the cows are utilising as much feed as possible and staying healthy, as well as producing good yields.

"I have also noticed an improvement in fertility and conception rates, which is good news as I am pushing to increase the farm's heifer numbers".

The product has also benefited the pedigree Hereford bulls that the Evan's family rear, with better feed intakes and feed optimisation resulting in improved overall performance.

Ed's wife Jackie is in charge of the calf rearing at Bourne Farm and she too has witnessed an improvement in livestock performance thanks to the use of Gradu8. This product contains Actisaf and Safmannan; a premium yeast cell wall, rich in mannans and beta glucans, which help to provide increased defence against pathogens in a calf's gut, as well as supporting a healthy immune system.

Calves used to have very loose dung and struggled when transitioning onto solid feed, resulting in lower feed intakes. On the advice of John Parker, Gradu8 was added to calf starter feed at a rate of 2g per calf, per day to help stimulate early rumen development and stabilise rumen pH levels in weaning calves.

"Since adding Gradu8 to our youngstock diet I have seen a marked drop in scouring and weanlings are able to digest solid feed a lot easier," concludes Jackie. "This has allowed us to push them on early, maximise early weight gains and get heifers bulled as early as possible."

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