

FEEDING AT GRASS - A SIMPLE APPROACH

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Billy Andrew,
Harbro Dairy Sales
Specialist

With increased pressure on dairy farmers to minimise their cost per litre, spring turn out is often viewed as a key time to reduce the feed bill and maximise grass availability. However, like any other forage on farm, there can be huge variance in quality, especially at the start of the season, so it is therefore essential that grass and all forage is analysed before creating additional feed. Though formulations should be adjusted as the season progresses, as long as the diet is kept as consistent as possible, the incorporation of grass back into the ration should be fairly simple.

Well managed grazing has the undeniable potential to produce low cost milk, but we need to be aware of the pitfalls of this rocket fuel! On the best spring/summer day, grass will only support a maximum of M+24 litres, which compares to an overall grazing season average of M+14 litres. Our experience, however, tells us that there are no real variations in energy or protein in a season and that the main milk driver is intake of dry matter. In the best summers day, grass will vary from 15% DM early morning to 24% DM in mid-afternoon. In inclement weather, we can expect DM

through the entire season to fluctuate from 10% DM to 25% DM. Therefore, the correct balance of dry matter in the ration is essential.

Gradual turn out to pasture is more favourable for early lactation cows yielding more than 30 litres or over 2kgs of solids/day. It has been proven that a turn out to pasture over 7-14 days will stabilise yields and solids going forward through the season. Cows introduced to grass this way consume more grass six weeks later than their abruptly turned out counterparts with digestive upsets being the main reason for this.

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We should consider keeping high yielding or early lactation cows in overnight throughout the summer or at least the spring till the first cut silage has become available. This will have a positive effect on many fronts; maintaining body condition, yields, solids, fertility but most importantly more control of intakes. Although forage stocks are extremely low on many farms, a night ration containing a high fibre forage balanced with a quality protein and

safe starch will aid the slowing of grazed grass through the day. With many milk producers relying on maximising returns from milk quality contracts, these measures will certainly help as farmers attempt to avoid the severe penalties in place when butterfat drops below 3.5%. For producers not on such contracts, though BF levels below this mark will not be penalised, they can signify a dip in rumen function which will need to be addressed.

A very successful and cost effective feeding strategy that we have used for a number of years now is to buffer cows at grass with a simple TMR of silage and Maxammon barley. Using this approach, silage provides the structural fibre needed to hold in slippery wet grass and gives the cows time to utilise it, whilst the Maxammon barley not only provides the extra energy demanded by higher yielders at grass but because it is alkaline it also reduces the risk of acidosis. Over 50% of cows at grass are affected by acidosis which directly reduces fibre digestion and milk butterfat production.

Finally, a reminder to consider mineral supplementation for cows grazing full time with no TMR buffer. Feeding an average of 4kgs of mineralised compound could still be deficient in trace and major elements, therefore it may be beneficial to make mineral buckets available in addition to ensure the requirements of the herd are fully covered.

WHY MAXAMMON IS NOT JUST UREA

Matt Palmer, Harbro Ruminant Nutritionist



It is a question that we are often asked, “Why bother with Maxammon, it’s just urea, isn’t it?” The truth is that although urea is indeed a crucial part of the Maxammon treatment process, the resulting Maxammon grain is so much more than the sum of its parts and something truly magical is happening under the sheets!

Where the magic happens

When you mix grain with Maxammon and urea, the first thing that happens is that the Maxammon reacts with urea and turns it into ammonia. This gives Maxammon its power and what makes Maxammon grain so much more than just grain and urea! As any of you who have made ammonia treated straw will know, the first



piece of magic is that the ammonia breaks down the seed coat and makes the fibre soft and digestible. This releases previously untapped energy, resulting in treated grain that has a

higher ME than untreated grain. The good news is that the thicker the seed coat (such as in oats) the bigger the lift in ME. This was illustrated in a recent beef trial at the University of Alfonso X El Sabo in Spain, which showed that in addition to making the grain extremely alkaline, Maxammon treated maize was nearly 12% more digestible than untreated maize (see Fig 1). The result is that animals grow faster and produce more milk from the same dry matter intake (DMI).

| | Maize | Maxammon Maize | Difference |
|----------------------------------|-------|----------------|------------|
| Organic Matter Digestibility (%) | 56.9% | 63.4% | +11.4% |
| Starch Digestibility (%) | 73.9% | 85.2% | +15.3% |

Fig.1 Holstein bull digestibility study, Spain

So what about the protein?

Before rumen microbes can utilise any feed protein in the rumen, including feed urea, they first have to break this protein down into ammonia which they use as the building blocks for all new rumen microbial protein. Whilst in principle this ability of Maxammon to ‘cut-out-the-middle-man’ and give the rumen bugs the exact type of protein that they need should improve rumen function, we

wanted to see if this actually happened in reality and to answer the ‘question’ once and for all: is there a difference between Maxammon and urea?

The Norwegian study

In conjunction with the Norwegian University of Life Sciences near Oslo, we fed and monitored two groups of dairy cows, with one group fed 6kg of Maxammon barley and the other group fed 6kg of dried barley and urea, to provide the same level of protein supply.

The results showed that although the protein and energy supply was the same on paper, in reality the digestibility of the TMR was 4.4% higher when cows were fed Maxammon barley, with fibre digestibility also up by 7.9% and the cows able to extract an extra 1.7 litres of milk from the same DMI (Fig.2).

| Total TMR Digestibility | Dried Barley + Urea | Maxammon Barley | Difference |
|-------------------------------|---------------------|-----------------|------------|
| Dry Matter Digestibility (%) | 68.2% | 71.2% | +4.4% |
| Protein Digestibility (%) | 65.1% | 68.7% | +5.5% |
| Fibre (NDF) Digestibility (%) | 59.9% | 64.6% | +7.9% |
| Starch Digestibility (%) | 94.3% | 95.7% | +1.5% |

Fig.2 Dairy digestibility study, Norway

These results, which are now being published for the first time, illustrate that Maxammon not only increases the digestibility of the grain under the sheet, but also increases the digestibility of the entire ration by providing the crucial building blocks for microbial growth: carbohydrate and ammonia, to boost rumen power and ultimately, animal performance.

This goes a long way to explain why we typically find that the more Maxammon you feed, the better the cow health, fertility and dung score, with more and better quality milk produced.

Ask your local Harbro Dairy Specialist for more information about the variety of ways to integrate Maxammon into your system and to find out about the increase in performance it can deliver. ▶

Maxammon solutions

Maxammon mineral and concentrate range

To ensure the best results from Maxammon, our nutritional team have developed a range of minerals and concentrates that should be fed in a Maxammon diet to ensure that your livestock meet their full potential.

Processing service

We offer a complete Maxammon processing service for farmers looking to home treat. Our unique Super Bruiser technology (on-farm mobile mill and mixing) is available across the UK offering a high output, accurate grain processing service.

How do I get Maxammon into my diets?

- Treating suitable grain at harvest time on-farm: maize, wheat, barley and oats
- Treating dried or stored grain throughout the year on-farm
- Supply of Maxammon grain direct to farm
- Supply of blended feed incorporating Maxammon grain
- Supply of compound feed incorporating Maxammon grain

MILK MONITOR

Hugh Kerr, Consultant
Dairy Feed Specialist



For the dairy industry, along with agriculture as a whole, there is an increasing understanding that data is king, and if we do not measure, we cannot manage! With a heightened awareness of the commercial benefits to be gained by both collecting and analysing data on farm, a host of events and technical open days throughout the country are being seen, encouraging us to measure more and more, because we now have the technology to do it!

These statements may well be true, but we are in serious danger of being overrun with data and starved of progress. Why should that be? If we look at the trends of production over the last 20 years, we can see that production has exploded over that time span and the milk cow has certainly been improved beyond all recognition.

The evolution in genetics is enabling us to produce more uniform, predictable animals, though we are still some way off complete standardisation. While the animal has been refined, her basic make up and operation has not changed and she is still the wonder that turns fibrous forage into the most nutritious human food, by an amazing fermentation process designed by mother nature.

It is therefore clear that the opportunity for progress is to optimise what the cow was naturally designed to do and allow her to exploit her fermentation process and ruminate as much as she can.

At Harbro we call this Rumen Rate, and it is clear from the data, (there is that word



again!) that this is the key driver to cow health and profit. The more we allow her to do what nature intended, the happier she and the bank manager will be! We should all be supporters of technology that can tell us how often she eats, lies down, swallows, farts, chews, blinks etc. BUT ONLY if that results in more milk in the tank for less or the same feed.

So milk from rumen function is the battle cry, knowing your herd's rumen rate, and more importantly doing something to improve it, as is shown in our latest results from Milk Monitor, is a definite way of improving herd profit. Whenever we make changes to the feed we give our cows, we should make sure they respond, not only in volume but also in margin; with milk driven by better feed digestion resulting in better margins.

If you haven't done so already, sign up to our Milk Monitor programme and let us help you seize the potential of your data to unlock increased profits on farm.

MILK MONITOR FIGURES FOR FEBRUARY 2018

| | RUMEN RATE | MARGIN PER COW | IMPROVEMENT |
|------------------|------------|----------------|-------------|
| Top 10% of Herds | 1.48 | £4.90/day | £1.01/day |
| AVERAGE | 1.32 | £3.89/day | |

(same milk price)

HARBRO LEADS THE WAY IN REDUCING METHANE EMISSIONS



With global CO₂ emissions having risen again after a three-year period of stability, pressure is on for countries to take the recommendations of the Paris Agreement on climate change seriously, to ensure this rise is not the signal of an upward trend.



“Agriculture has been identified as an industry with a big part to play in reducing emissions, with the environmental impact of the methane produced by cattle being in particularly sharp focus,” explains Willie Thomson, Technical Director at Harbro. “Within our business, we feel that we have a responsibility to play our part in supporting farmers to reduce their carbon footprint, and one of the most important places to start is in the environment of the rumen,” he suggests.

The business started to explore how, through feeding, farmers could reduce their farm methane output, without impacting on animal health and farm profits. “We started by looking at our

nutritional advice and the role that RumiTech could play.” This work has delivered very positive progress.

“After an independent review of evidence, the Carbon Trust has provided us an assurance that RumiTech can significantly reduce enteric methane emissions and improve feed efficiency in dairy and beef cattle, without affecting productivity.” Harbro’s trials have shown that the correct use of RumiTech, within a predominantly forage-based diet, reduces dairy or beef enteric methane emissions by 17.7% per litre of milk (+/- 5%)*, and dairy or beef enteric methane emissions by 6% per day (+/- 2%)*.

Dairy trials across the UK using RumiTech have shown clear benefits in feed conversion efficiency, amounting to £24,000 p/a based on a 100 cow herd with secondary benefits including improved fertility, reduction in feed intake and also a reduction in cases of ketosis. With minimal cost to feeding the additive of just 4p/cow/day, and with availability in a range of different packages, introducing the mineral into a ration is simple and straightforward and an option available to every farm.

RumiTech is available in a blend or compound, or as part of an on-farm mineral pack so can be easily introduced to the ration with visible effects seen within a short period of feeding. With a significant direct correlation seen between reduction in energy lost as methane and increase in productivity, whether in terms of litres of milk, or weight gained, it would seem that working towards a sustainable future for the planet as well as the farmer go hand in hand.

COWMAN'S TIPS FOR TURN OUT



Matt Palmer,
Harbro Ruminant
Nutritionist

- 1 Introduce cows to grazing gradually over a 2 week period
- 2 Provide access to a simple buffer TMR before and after morning milking
- 3 Cows naturally graze hardest in the evening until dusk
- 4 Cows graze very little at night due to very poor night vision
- 5 Consider keeping high yielders in full time or in at night
- 6 Grass will only support M+14 litres on average through the season - be realistic
- 7 On wet days provide more buffer TMR
- 8 On wet days feed more in the parlour

Product Focus

BRIDGE THE ENERGY GAP WITH GLUCOSE AID



Alex Robertson milks 500 cows at Coopon Carse Farm, Newton Stewart, Scotland, and uses Harbro Glucose Aid to help bridge the energy gap.

He comments that since moving on to the product, “he has seen extremely positive effects not only on fertility but that it has also eased the stress from calving through to full milk production.”

Contact us to find out more about Milk Monitor, Rumen Rate, Maxammon and RumiTech

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