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Maximising the Benefits and Mitigating the Pitfalls of Grazing Dairy Cows

We talk a lot about maximising growth rates and qualities of pasture, and indeed these are critical points, but managing dry matter intake quantity and consistency is perhaps the most important, and difficult to achieve.

The grass plant itself will only have three fully viable leaves, a fourth will grow but the first will die away and lie in the base of the sward. Allowing this to happen is not only a waste but can reduce plant establishment in the base of the sward. For those without a plate meter, using the three-leaf method is an accurate and viable method of determining the optimum point to graze pasture. Leaving

it longer than this will reduce a cow's ability to achieve a low and clean grazing residual which in turn will reduce pasture qualities.

Intake is king; turning cows, particularly the high yielding animals into slightly higher grass cover, can increase grass intake per bite and therefore total grass intake in a given amount of time.

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Maximising the Benefits and Mitigating the Pitfalls of Grazing Dairy Cows *(continued from front page)*

'Turnout' doesn't have to mean cows are out all the time. Kennedy et al (2009), showed restricting time at pasture improved grazing efficiency by increasing intake per bite and per minute. This strategy can be used in two ways.

One is spring turnout; restricting access time means when cows are out they are grazing, particularly if they haven't received their buffer before being turned out. Limiting pasture access to approximately three hours per grazing, twice a day will ensure an efficient pasture intake without impacting too negatively on wet ground, tracks or gateways. Research has been mixed but tends to suggest access time being split as opposed to one prolonged period at grass, encourages intake per unit of time at grass and milk yield.

The other way is looking at total dry matter intake (DMI) considering cows grazing behaviour. A typical Friesian/Holstein requires approximately 3-3.5% bodyweight in dry matter intake, Jerseys and Guernsey's can be slightly higher. That's approximately 20kg DMI but forage intake will typically be 12-14kg DMI leaving another 6-8kg DMI to be achieved either in the parlour or down the trough. That of course is assuming the forage

intake can be achieved at pasture, which is often not the case and a further 2-4kg silage DMI may be required. The question is, when should a buffer be fed?

Habitually, cows still fear a threat from predators in the night, but there are also photoperiod effects - this is why through the hours of darkness cows remain in the herd and don't wonder to graze. Grazing activity and intake reduce to almost zero through hours of darkness. At sunrise searching activity peaks and grazing activity increases but the evening period prior to sunset sees the lowest searching period, highest intake and grazing activity period (adapted from Gregorini et al, 2013). There are also suggestions that pasture quality increases towards the end of the day, with lower proteins and fibre and higher dry matter, organic matter and water-soluble carbohydrates.

Many factors influence milk constituents, but a few key points should be kept in mind whilst grazing. Milk fats are closely related to rumen health and pH ensuring diets have balanced energy release is key, whilst maintaining a healthy level of digestible fibre, buffering the rumen could be key reducing a milk fat drop.

Focus on Forage Quality

Maximising growth and utilisation of high quality home grown forages is a key component in driving dairy farm profitability, achieving this requires consideration not only on the forage, but also the ability for the cow to make full use of the available nutrients.

There are two aspects of quality with silages being, the nutrient value of the crop at harvesting, and how well it is preserved. The first relates to type of crop, fertiliser strategy and crop maturity, as these will determine predicted metabolisable energy (ME), protein, fibre (NDF) and sugars. The second is understanding the process of silage preservation.

Silages are preserved by bacteria consuming sugars to produce volatile fatty acids thus pickling the crop to a stable acid pH. The longer this process takes, the more sugars are used (dry matter and nutrient losses) and more protein is broken down (increased ammonia nitrogen production). Some natural bacteria in the forage is beneficial, but many are negative to a lactic acid fermentation, which is where an appropriate silage inoculant can be very effective.

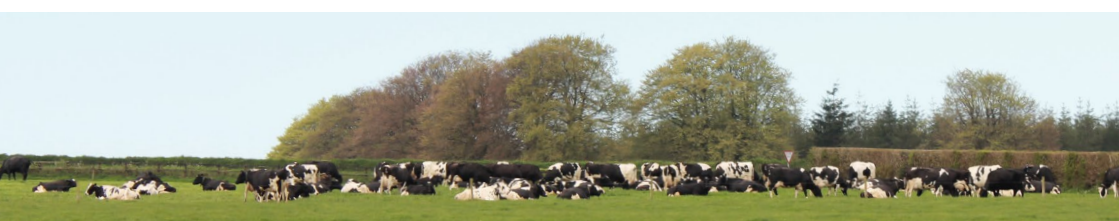
Clostridia bacteria thrive in wetter conditions at higher pH and have a large effect on increasing nutrient losses and reducing palatability. Achieving a dryer crop reduces Clostridia lifespan (Clostridia struggle to survive at above 35% dry matter) as does a rapid drop in pH.

Very dry crops don't require such a low pH and have little effect from Clostridia bacteria. However they tend to be higher in yeast levels, which when subjected to oxygen produce mould and toxins. Effective rolling and sealing is essential in this scenario, as is an inoculant that can help improve aerobic stability.

Very wet crops can result in significant nutritive and dry matter losses due to effluent production, so cutting drier crops (>28% DM, ideally 30-32% DM) or wilting will help reduce this, and concentrate sugar levels. Wetter silages stabilise at lower pH levels than drier silages, so require more acids to be produced, using up more sugars to achieve this.

KEY POINTS

- More mature crops will be higher yield but lower quality
- Ideally aim for a quick wilt, but dry matter is critical to quality, preservation and feedout
- Aim for 30-32% dry matter
- Clamp quickly, roll and seal effectively
- Use NWF Sila-Guard 50 to help achieve a front end fermentation with a rapid pH drop in wetter crops and improve aerobic stability on drier crops





Rearing your future herd

Rearing productive replacements is essential for any dairy herd future. High calf rearing protocols can have significant effects on a calves' future lifetime performance.

Faber et al, 2005 showed feeding adequate colostrum levels (4L) within 1 hour after birth could increase average daily gain, survival rates and milk yield. While Soberon et al, 2012 showed that pre weaning nutrition can influence average daily gain through to conception as well as yield in the 1st lactation.

Any calf rearer can improve health and future performance by following the 5 C's of calf rearing.

- 1. Colostrum** - Colostrum is the most important contribution to calf health. Calves rely on the passive immunity passed down by their mother, as they are born with little protection. They require 200g IgG (immunoglobulins) in the first 6 hours of life, without this, calves are more susceptible to poor health, growth and low 1st lactation yield. Ask NWF to sample and test your colostrum quality.
- 2. Calories** - It is key calves get the correct amount of energy in the form of a highly digestible milk replacer (CMR). Minimum feed levels should be 750g of CMR per day however increased rates of 900g have greater effects on performance. It is also vital that calves receive extra (100g/calf/day) in cold weather below 10°C.
- 3. Comfort** - Calves spend 17-19 hours a day laying down. They need to have a comfortable, calm, quiet and stress-free environment with adequate space and ventilation.
- 4. Cleanliness** - Without high levels of hygiene in calving pens, buckets, utensils and rearing pens calves can pick up bacteria which can be harmful to health. Ensure the calves environment from birth onwards is clean, all equipment washed every time it is used and that CMR, starter feed and water is replaced daily.
- 5. Consistency** - Without consistency in daily management routines including timing and temperature of feeds calves get stressed which can lead to illness.

Speak to your local NWF Sales Specialist about calf health, quality milk replacer and calf starter feed, or call the technical team on 0800 756 2787.



Precision Blending from NWF

With efficiencies and cost savings at the forefront of livestock farmer's minds, tailoring feed to suit a specific system or nutritional requirement is a constant and dynamic requirement.

NWF have the ability to maximise production while minimising cost as a result of the large range of high quality raw materials and feed supplements that are available across the production sites.

With turnout just around the corner the next topic of discussion centres on protein utilisation and buffer feeding. Research* has shown as much as 53% of cows at grass can have rumen pH of 5.8 or below. As a result butterfats suffer, efficiencies

subside and milking becomes an assault course to avoid projectile faeces!

To create a stable rumen environment consider the NWF Ultra Buf which limits the pH fluctuations while the addition of OptiRumen, a unique mixture of essential oils, helps mitigate urea output hence promoting protein utilisation and milk production.

Could the addition of an NWF Rumen Buffer, along with NWF's range of protected Proteins, ULTRA PRO-R and ULTRA-SOY, to your summer blend increase production this grazing season?

Find out by calling your local NWF Sales Specialist or the NWF blends team on 01829 262251

(*Source: The Veterinary Journal. L. O'Grady, Et-al. 2008)

Products for your herd, flock & farm

In addition to compounds and blends NWF supply a comprehensive range of additional products at competitive prices supported with expert advice from the field sales team and head office.

THIRD PARTY PRODUCTS

- Magnesium
- Minerals
- Milk Powders
- Molasses
- Protected Fats
- Rumen Paks
- Salts
- Ultra Pro R
- Ultra Soy
- Ultra Starch W

GRASS SEED

- Champion Grass Mixtures
- Short, Medium & Long Term Mixtures
- Organic & Forage Seeds

FERTILISER

- Ammonium Nitrate & Urea
- Blends & Straights
- Aftercut Grades

SILAGE ADDITIVES

- Sila-Guard 50
- Sila-Guard Whole Crop and Maize



Abbi England

NutriOpt: The future of efficient rationing

Precisely formulating rations to ensure cows are being fed as economically and efficiently as possible sits at the heart of profitable herd performance. With the pressure on margins unlikely to ease, making sure feed costs are controlled is essential.

NutriOpt, developed by Trouw Nutrition, is the latest precision-feeding system made up of proven scientific components,

delivered in a practical and applied way. NutriOpt is the first rationing system to consider energy and protein supply in a fully integrated approach including fermentation in the rumen, digestion in the small and large intestine as well as the effects on acid production and therefore rumen health. This extra information allows farmers and advisors to accurately and efficiently balance forages through enhanced rumen performance.



Delivering Nutritional Solutions

- Getting nutrition right for your herd or flock
- Supplying diets that perform from compounds to blends to straights
- Seeing what your cows are telling you through Cow Signals
- Robots, what you should consider before investing
- Improving forage quality by understanding your soils
- Interpreting results for forage and mineral analysis

Call us on 0800 756 2787
or email nbteam@nwfagriculture.co.uk

The system is based on four key areas:

1

Dynamic Energy (DyNE)

DyNE is the total amount of net energy available to the dairy cow for milk production. It offers a more refined assessment of energy that cows can utilise rather than ME, which can be considered as more generic term for energy.

As an example, a grass silage with an ME of 10.8MJ/kg DM might have a DyNE figure of 5.4-6.4 MJ/kg DM – this can help explain why cow performance isn't matching what you might expect from the ME figure of certain silages. Translate this to yield, and while you might be forecasting a yield of 36 litres based on ME, this figure ranges from 34-38 litres based on DyNE.

2

NutriOpt Digestible Intestinal Protein (NDIP)

The NDIP part of the system is based on microbial protein yield from the rumen plus bypass protein; this gives the supply of metabolically-available protein. As with DyNE and ME, NDIP gives a range within the MP (Metabolisable Protein) figure. For example, an MP predicted yield of 34 litres could have an NDIP yield of 32-39 litres. This is critical, particularly for peak yielding cows.

3

NutriOpt Fermentable Energy and Protein Balance (NFEPB)

NFEPB gives a measure of the rumen protein and energy balance. This parameter is most effectively used on a total diet basis, ensuring rations contain as close to 200g of NFEPB as possible optimises microbial protein synthesis in the rumen.

4

Amino acids (NDIP-Lys and NDIP-Met)

The NDIP-Lys and NDIP-Met figures give the amount of lysine and methionine absorbed in the small intestine. Both are essential amino acids, in that they cannot be synthesised by the cow. Research has shown lysine and methionine to be the two amino acids most often first limiting for milk protein production.

Feeding with precision for profit

The NWF Laboratory at Wardle can analyse your silage or fresh grass with NutriOpt giving you a greater opportunity to maximise forage utilisation on farm this spring. All NWF compounds have been formulated with the NutriOpt parameters, enabling NWF to develop new specialist products to feed with a greater precision with a better focus on rumen health. NutriOpt enables NWF to better understand all the components of digestion providing nutrients for milk yield and quality, creating the opportunity to optimise production and herd profitability.

Beef Outlook

Throughout the industry, optimistic views are arising from new markets and opportunities, such as lifting the ban on beef in China.

Prices have decreased over the years; in 2013 the average steer price was 389.3p/kg and in 2016 it was 335.8p/kg. However, over the last 6 months prices have remained steady highlighting the need for production efficiency to utilise genetics and nutrition.

In 2016, 56.5% of prime beef cattle hit the target specification; conformation (E-R) and fat coverage (1-4L), an increase of 8.1% compare to 10 years ago. Within this, only 19.6% of carcasses are meeting the R4L specification despite the fact this specification is what the retailers, who have 60.7% of the domestic market share really want.

Consumers are now wanting 'healthy' meat products which are 'free from' or with added benefits. In beef, this could mean higher levels of omega 3's which is found in grass fed systems. This type of beef is already favorable in European countries due to it being thought to be more flavoursome.

For suckler cows, 50-65% of their diet is from grazing. Body condition scoring is an important tool to be used in conjunction with grassland management, to determine when supplementary feeding is necessary to maximize margins and cow health this spring.

Sources: DEFRA, AHDB, NBA and Trouw.



Meet the NWF team at:

Staffordshire County Show..... 30th & 31st May 2018
Royal Cornwall Show..... 7th, 8th & 9th June 2018
Nantwich Show 25th July 2018
North Devon Show..... 1st August 2018
Dumfries Show 4th August 2018
Holsworthy Show..... 23rd August 2018
UK Dairy Day..... 12th September 2018
Westmorland Show..... 13th September 2018



Enquiries: **0800 756 2787** | Orders: **0800 262397**
E Mail: **nbteam@nwfagriculture.co.uk**

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