

Farmers are used to monitoring the quality of their silage to optimise winter rations, so why do we not pay the same attention to grazed grass?

GRAZED GRASS QUALITY

at Clive Hall Farm, Winsford



>> Grazed grass costs £42 per tonne DM to grow/feed

>> Barley costs £210 per tonne DM

“It’s a game of getting more milk from the cheapest energy source”

Grassland specialist Dr George Fisher explains why Cheshire dairy monitor farmer Phil Asbury is taking samples of fresh grass and analysing quality to help monitor grazing management...



regrowth quality, and he can decide which paddocks to take out for silaging.

When there is evidence that grass DM is low, Phil monitors the herd closely to ensure that reduced DM intakes do not impact milk production beyond the planned variability, introducing buffer feeding if necessary.

But what about grass quality? Most farmers will have their silage analysed at least once so that they can formulate winter rations to meet cow nutritional demands, but very few monitor grazed grass to make sure that they are supplying enough energy as well as dry matter to achieve target milk yields.

Sampling grass to measure quality is easy. Just before cows go into a paddock Phil takes hand-grab samples randomly across the paddock until he has about 1 kg of fresh grass. He then mixes what he has, takes about 0.5 kg and puts it into a plastic bag supplied by the laboratory and posts it off. It is important to take samples randomly from across the paddock to get a sample that represents the whole sward. It is also critical to send the sample to the lab as soon as possible so that it really is ‘fresh grass’ that is analysed. Also, the sample should not be frozen as the freezing and thawing will break open the cell walls of the grass, leading to false results.

The three main things to get analysed are dry matter (DM), energy (MJ ME/kg DM) and protein (crude protein – CP % of DM).

Phil started regular sampling of his paddocks in September 2011. He doesn’t sample every paddock on every grazing, but the results have helped him to monitor the quality of his grass and his grazing management.

Matching grass growth to cow demand is a key element in profitable milk production for Phil Asbury at Clive Hall, Cheshire’s dairy monitor farm. Phil operates a spring block calving system with 210 cows and uses rotational grazing to maximise dry matter (DM) intake. He also feeds barley to fill any energy gaps between grass supply and cow requirements.

Grazed grass costs around £42 per tonne DM to grow and feed; accounting for all reseeding, fertiliser and fencing. This compares very favourably with feed barley at around £210 per tonne DM, so the more grass Phil feeds rather than barley, the more profitable the system becomes. It’s a game of getting more milk from the cheapest energy source.

Amongst the key performance indicators (KPIs) at Clive Hall for 2012/13 are to achieve 5,500 litres milk per cow and utilise 12 t grass DM/ha over the grazing season and these are critical KPIs for Phil as growing more grass energy and utilising it reduces costs. This is clear when we consider that one mega Joule of Metabolisable Energy (MJ ME) from grass costs 0.35 pence, compared to 1.59 pence from barley. Each litre of milk that Phil’s cows produce takes about 5.3 MJ ME to

make. This costs 1.89 pence if that energy comes from grass against 8.43 pence if it comes from barley.

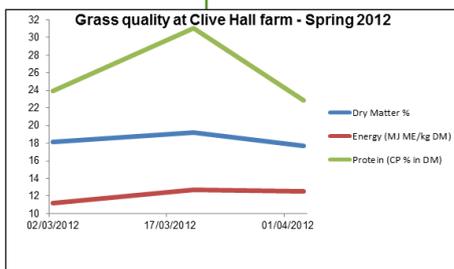
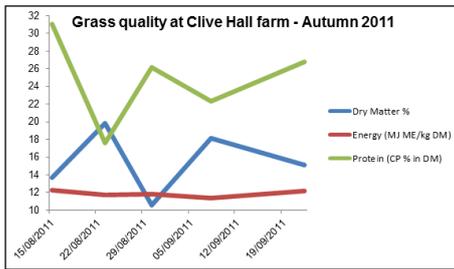
Quality is essential

So grass quality is central in managing the energy balance of grass supply against cow requirement. 12 t of grass DM at a low energy content of 10 MJ ME/kg DM is a very different feed with much less potential for milk production compared to 12 t at 12.5 MJ ME. At 10 MJ ME, 12 t grass DM has the energy potential to produce 22,600 litres of milk – 12 t at 12.5 MJ ME could produce 28,300 litres.

Managing and monitoring grass quality

The next question is, how can Phil and his team monitor their performance in grazing management? Grass supply is monitored using a plate meter. Each week every paddock is measured so that Phil knows how much grass is in front of the herd. Pre-grazing heights are kept between 2600 and 2700 kg DM/ha. He also monitors residual grazing conditions, making sure they are close to 1,500 kg DM/ha to gain optimum utilisation and

What do the results show?



The results in the graphs indicate that:

>> The energy content of the grass is relatively stable and averages 12.0 MJ ME/kg DM grass. The values for Autumn 2011 are also close to those in Spring 2012, which indicates that the grazing management at Clive Hall is very good in maintaining quality throughout the season.

>> Grass DM values are variable and pose a challenge to achieving consistent high DM and energy intakes from grazing.

>> The grass CP contents are high and variable, reflecting nitrogen inputs from fertiliser and urination on to pasture.

What do the results mean?



Fresh samples of analysed grass and plate metering are key management tools

>> Grazing management at Clive Hall is at a good level for making the most of producing milk from grazed grass. And the grass sampling helps to indicate the standard of management. It also helps to budget the amount of milk that can be gained from grazed grass and focuses attention on reducing the amount of barley fed. This can be seen in the table (below) – improving grazed grass ME from 10 to 12.5 MJ increases milk production from 12 kg of DM intake by over 50%. And that's at a cost which is 25% less than producing the same milk from barley.

	Grazed grass energy content (MJ ME/kg DM)			
	10.0	11.0	12.0	12.5
Energy intake	120	132	144	150
Energy for maintenance	70	70	70	70
Energy for milk	50	62	74	80
Litres of milk at 5.3 MJ ME / litre milk produced	9.4	11.7	14.0	15.1
Cost / benefit if extra energy comes from grass	-	60p	120p	149p
Cost / benefit if extra energy comes from barley	-	45p	91p	112p

Future goals

Phil will continue to take grass samples through the season. The plate meter helps to make sure that grazing is managed to get optimum milk from grazed grass to hit the KPI of at least 12 t DM/ha grass.

The fresh grass analysis backs up his grassland management, confirms his balance of grass energy supply / cow energy demand, and focusses attention on the KPI of producing 5,500 litres per cow with minimum input of barley.

A study trip to Moorepark Farm Animal and Grassland Research Centre in Ireland is organised for September for the monitor farm group.

Visit Clive Hall's Cheshire Monitor Farm blog page at www.livestocknw.co.uk for more from the farm / contact Lesley Innes at Reaseheath College

