

What is GrassWatch?



GrassWatch is the weekly report compiled from Milk Yield from Grazing (MYFG) samples analysed through the Trouw Nutrition GB laboratory each week. The report includes information on grass growth data, grass quality, performance indicators and growing cattle, enabling advisors to discuss approaches to optimise health and performance.

What is included in the report?

1. Average GB & Regional Grass Growth Rates

Weekly updates of regional and GB growth rates are collated from data supplied by AgriNet. The online AgriNet grassland management software allows farmers, farm advisers and discussion groups to monitor grass supply and demand.

This allows informed management decisions to be made throughout the season as grass growth rates vary.

2. Grass Quality

Samples submitted for MYFG reports are analysed by dry NIRS to determine a full nutrient profile; dry matter, crude protein, estimated ME, sugars, NDF and oil. The current week's average, with minimum and maximum values, is compared to the previous week's average so that changes in nutrient analysis can be identified.

3. Milk Yield from Grazing

Based on handfuls of grass submitted (to represent bite size) a prediction of potential dry and fresh matter intake can be calculated allowing a prediction of potential milk yield from grazing. This is determined by applying research from Hillsborough into bite rate and hours at grazing into potential milk yield.

Energy contribution from grazing is calculated from the current week's average ME. Any additional energy required and the respective supplementary compound required (high energy compound; 13.2 MJ/kg DM, low energy compound; 11.5 MJ/kg DM) are also provided.

4. Weekly Grazing Information

Graphical representation of potential DMI and milk yield, and key nutrients; crude protein and ME are displayed on a weekly

Points to consider:

- Trends and planning of grass management; stocking rate, rotations, grazing hours.
- How is the nutrient analysis changing throughout the season?
 - Could increased protein levels be causing loss of body condition? How might this affect fertility?
 - Will high NDF levels reduce intake?
 - Is rumen health at risk?
 - How will you combat reduced dry matter and reduced intake potential?
- Do you need to buffer feed?
- What yield are you aiming for? Is this realistic with nutrient information and grazing information provided?

basis comparing current data (solid green block) vs. last year's data (solid red line) vs. a 6 year average (solid blue line) to monitor trends.

5. Performance Alerts

a) Rumen Protein Energy Balance

NFEPB is a measure of the rumen protein and energy balance. If the diet is balanced for protein and energy then NFEPB = 0 g/day. When rumen nitrogen is in excess, ammonia is absorbed from the rumen into the blood and must be deaminated for excretion.

Deamination uses energy, which could otherwise be used for milk production or growth, therefore losses of milk yield or liveweight could be incurred. Alternatively back fat may be mobilised to meet yield requirements which results in liveweight loss. To counteract these effects reducing protein supplementation is an option, or increasing rumen energy.

b) Butterfat Factors (Total Ration Basis)

There are a number of factors that can contribute to decreased butterfat at grazing. GrassWatch utilises RFC, acid load, fibre index and RUFAL intake to determine if cows are at risk.

The individual nutrients are displayed in a traffic light system (low risk = green, moderate risk = yellow, high risk = red). Use this based on your knowledge of the cows and the system to determine overall risk of decreased butterfat.

Points to consider:

- Higher levels of NDF benefit butterfat production due to the effect of fibre in the rumen producing acetate and butyrate, volatile fatty acids essential for butterfat production
- A high RUFAL value can lead to production of conjugated linoleic acids (CLAs) by biohydrogenation in the rumen, some of which cause milk fat depression
- Acid load and fibre index can be used together to determine the effects on butterfat; high acid load (greater than 50) and low fibre index (less than 100) indicates that rumen health may be compromised

c) Temperature Humidity Index

The temperature humidity index (THI) uses average daily temperatures and humidity values to calculate a Stress Index. As temperature and humidity increase these have adverse effects on behaviour, physiology and production potentially causing reduced DMI, poor expression of oestrus and conception rates, and reduced milk yield as shown in the table below (Chamberlain, 2015).

THI	Stress Index	Effect on Milk Yield
<62	OK	-
62 - 72	MILD	-2 litres/day
72 - 80	HIGH	-3 litres/day
>80	SEVERE	-5 litres/day

6. Growing Cattle

Using the weekly average fresh grass ME, an estimate of the potential daily liveweight gain (DLWG) from grazing is calculated assuming that ad-lib grazing is sufficient to satisfy the daily DMI requirements.

Using published energy requirements for growth, and assuming a dry matter intake of 2% of liveweight, an estimate

of extra concentrate supplementation (energy value; 12.2 MJ/kg DM) required to meet target DLWG of 0.8, 1.0 and 1.2 kg/day is also calculated. This estimate does not take into account substitution rates, usually 1 to 1 replacement of forage with concentrate, or any other nutrient requirements, so should be used as a guide with diets formulated to ensure growth rates are met at achievable dry matter intakes.

To ensure grass availability, the Stocking Rate Guide can be used to estimate the number of animals to graze per hectare based on LW and required DLWG (kg/h/d) at a specified entry cover (kg DM/ha).

NutriOpt terms and description

Nutrient	Description
Rapidly Fermentable Carbohydrates (RFC)	Carbohydrates that are fermented in the rumen in less than two hours after feeding. Mainly starch and sugars.
NutriOpt Fermentable Energy and Protein Balance (NFEPB)	NFEPB is the balance of fermentable carbohydrates and proteins in the rumen. Understanding how and why the rumen is unbalanced means the diet can be modified more effectively so that the rumen works efficiently.
Rumen Unsaturated Fatty Acid Load (RUFAL)	RUFAL is the sum of the three primary unsaturated fatty acids consumed by dairy cattle; oleic acid (C18:1), linoleic acid (C18:2) and linolenic acid (C18:3).

Milk Yield from Grazing (MYFG) App

The Trouw Nutrition GB Milk Yield From Grazing App launched in 2016 is available for free download on both Android and Apple devices.



Android App Link: <https://play.google.com/store/search?q=Milk%20YieldFrom%20Grazing>



Apple App Link: <https://itunes.apple.com/gb/app/tn-milk-yield-from-grazing-1.0/id1108384694?mt=8>

Based on a series of three data input screens the App allows feed advisers and farmers to estimate the milk yield potential from grazing in a particular system and the amount of concentrate required to achieve the target milk yield.