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Get Smart with Grass

You've only got to spend 10 minutes exploring the wealth of information out there about grazing to get properly confused! There are many systems of grazing but which is right for your farm? On the one hand there's continuous stocking - livestock have complete access to all fields throughout the grazing season without rotation and on the other you could be Techno - grazing high stocking rates through small grazing "cells" moved every 12 or 24 hours. If you're interested in rotational or paddock grazing two things are a given- you'll be managing your stock numbers and how often they move through the paddocks. This means that you'll have to get smarter at managing your grass to get the best out of it.

WHAT ARE THE BENEFITS OF GETTING SMARTER?

You'll benefit from higher daily live weight gains and better utilisation of the grass you produce which increases your gross margin per hectare. Growing higher quality grass in leys that last longer and have improved sward composition are further benefits. Improvements to fertility, soil organic matter and minimising poaching are others. And you'll enjoy it - smarter grass management provides a high return on capital investment and a profitable, sustainable enterprise.

Here's some rules and principles to be getting on with -

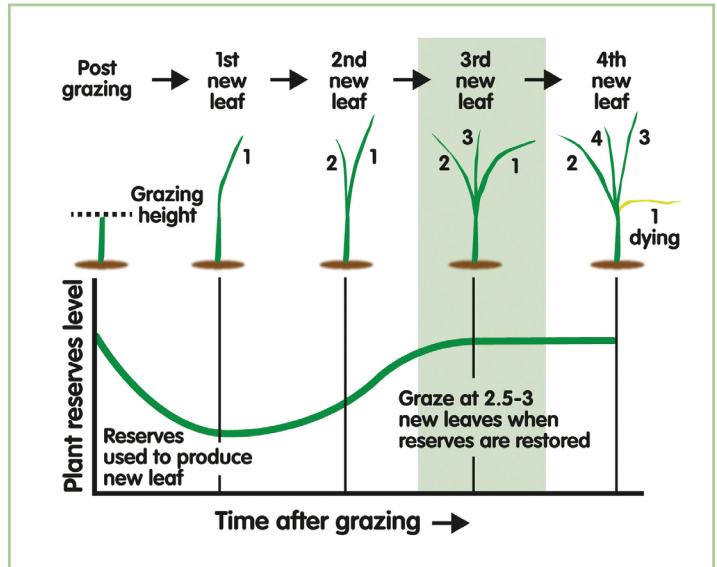
- **Graze down** to a low residual height of 3.5cm (sheep) to 4.5cm (cattle) to aid better quality sward recovery.
- **Graze off** paddocks quickly before stock eat the regrowth. Grass uses energy in its roots to grow new leaves, but if the regrowth is taken off there will be no energy store and growth will be stunted.
- **Rest** paddocks between grazing to allow tillers to recover to the three leaf stage. Rotation length should be between 30-45 days in spring (Feb-Apr), 18-22 days in summer (May-Jul) and 30-60 days in the autumn (Aug-Oct).
- **Measure** grass covers or sward heights. If covers are too high light will not reach the base of the sward, prompting slower regrowth and it will be harder to graze down to 4cm. If covers are too low stock have to work harder to achieve their intakes - check out the guidelines you should be using in our *Improving Grazing Management factsheet*.

Why?

A ryegrass plant only supports 3 live leaves; when the fourth leaf starts to grow the first one dies unless it is grazed. **The first new leaf uses energy reserves (water soluble carbohydrate) stored in the base of the plant to grow. The second leaf begins to refill the energy store and the third leaf restores the energy levels. Root growth mirrors the increase in energy stored.** Leaf production is greatest when grass is growing fastest, and in May a new leaf appears every four to five days replacing all 3 leaves in just over 2 weeks. In the winter it can take 30 days to produce 1 new leaf. To optimise quality and quantity the ideal time to graze is when each plant has 2.5 to 3 live leaves. Check out how to do this here in our *Improving Grazing Management factsheet*.

WHICH GRAZING SYSTEM IS RIGHT FOR YOUR FARM?

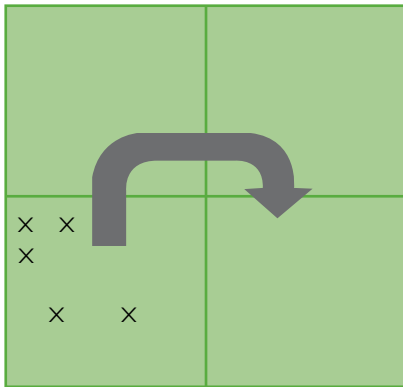
A good grazing system with the right number of paddocks needs to have both flexibility and be carefully planned. Having infrastructure such as electric fencing, water troughs and gateways in the right places is important. In some cases, livestock tracks may be required. **In each system grass supply is matched with demand** by measuring grass and adjusting the grazing area and /or stock numbers and supplementary feed.



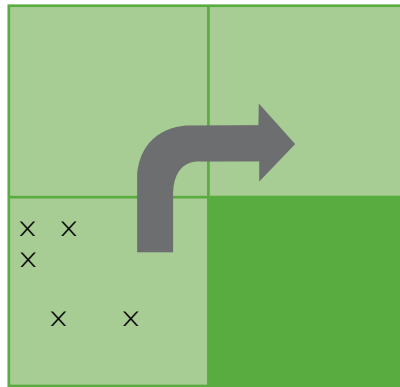
Source: AHDB

Rotational Grazing

Fields are split into a number of paddocks using electric fences and stock graze them in turn for anything between 0.5 to 7 days. Speed of rotation is based on monitoring sward growth. Paddocks are grazed when the sward reaches the pre-graze target measurement and stock are removed when the sward is grazed down to the post graze target measurement. The paddock is then allowed to rest and regrow. The time this takes varies depending on the time of year and speed of re-growth. Paddocks are taken out of the grazing area when growth exceeds livestock needs and cut for silage.



Stock grazing one paddock before moving



One paddock taken out of the rotation during surplus grass growth

Cell Grazing

Cell grazing is a form of rotational grazing where livestock graze very small paddocks for 0.5 to 1 day at maximum stocking density to match the grass available.

How the numbers compare

Grass Cost	£50-60/tonne DM	Concentrates cost	£200-£220/tonneDM
Rotational / Cell Grazing Average grass production	12,500kgDM/ha annually 80% utilisation	Set stocked grass production	8,500 kgDM/ha annually 50% utilisation

The potential output... at high stocking rates, rotational grazing of **half day to 3 day paddocks** has been shown to give the highest yields of re-growth and optimise stock performance. *This is because whilst the pasture is rested, livestock are not able to graze the first new leaf when it appears allowing the second and third leaves to grow.* When fields are grazed for **7-10 days** approximately half the regrowth is re-grazed leading to a **25% reduction in growth in the next rotation.** Under intensive rotational grazing systems it is possible to produce 1000kg carcass weight per ha.

TARGETS FOR CATTLE		
Stocking liveweight /ha	2400kg	Eight 300kg yearlings
Daily liveweight gain	1.0 kg/day	200kgs possible between April and October
Carcase production/ha	1000kg	

Set up costs: £276-420 /ha including design, equipment, installation and advice.

OTHER SOURCES OF INFORMATION:

- Farming Connect Factsheets
- Grassland Production and Utilisation SRUC report
- “High production dairy-beef cattle grazing systems: a review of research in the Manawatu” (G.P. Cosgrove et al) 2003 Proceedings of the New Zealand Grassland Association 65
- Growing Cattle Fast on Pasture Beef and Lamb NZ
- Precision Grazing Ltd
- AHDB Beef and Lamb - TechnoGrazing - Investigating the Potential Report January 2017
- Managing your Grass (Teasgasc)

