

Grazing for Profit and Biodiversity:

Grazing Strategies

Summary

Equally important to both profit and biodiversity as pasture composition, is the way in which we graze the pasture with livestock.

Grazing duration, intensity and rest impacts **profit drivers** (pasture utilisation, quality and stock performance) and **biodiversity drivers** (sward structure diversity, flowering and the long term pasture composition).

This factsheet provides a summary of different grazing strategies for lowland / 'in bye' pastures. Detailed are the basic general principals of the defined grazing strategy but farmers often implement a tailored version of the strategy to suit their system and objectives.



Diverse range of grazing strategies

Photo credit: Clem Sandison

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Set Stocking

Continuous grazing of stock on a particular area throughout the season.

Profit:

- Low capital (fencing and water infrastructure) and labour requirements.
- Provided swards heights are maintained at 4–8cm, feed quality and stock performance are good.
- Animals can be selective when eating promoting performance.
- Can be difficult to maintain pasture quality leading to poorer quality feed late season.
- Short swards and grazing regrowth impacts pasture yields.
- Poor pasture utilisation holds back stocking rate potential.

Biodiversity:

- Short pasture height benefits certain species of plants.
- Continuous grazing and pastures managed to short sward heights, for stock performance, cannot be tolerated by many species, provides limited structural diversity or scope for plants to flower and seed.
- **Conservation grazing:** Stocking rate, and duration, is a key tool in conservation grazing and is adapted to suit the habitat, site and target species.
- This often means stocking well below conventional levels to allow for biodiversity promotion factors such as structure in the sward, wildflowers reproduction, pollinator foraging or to benefit ground nesting birds.
- Cattle are less selective feeders than sheep, do not graze as low (4–6cm v 3–4cm typical grazing residuals of cattle and sheep respectively) and are better suited, and willing, to consuming coarse vegetation.
- Sheep can be more beneficial for fragile sites that are nutrient sensitive or vulnerable to trampling or erosion.



Sheep on a set stock system

Photo credit: Daniel Stout

Rotational Grazing

Stock is moved around a series of fields or paddocks on a regular basis (1-7 days).

Conventional rotational grazing seeks to manage grazing to maintain leafy pasture (entry 8-15cm, exit 4-5cm), often targeting ~21 days rest between grazing's in the summer for example 8 paddocks grazed for 3 days each. Rest period extended as the season progresses.

Profit:

- Provides rest with greater leaf area promoting photosynthesis and pasture yields.
- Much improved utilisation (65-80%) compared to set stocking (50%) leading to higher stocking rate, output/ha and an extended grazing season.
- Improved control over pasture quality through the season.
- Stock cannot be as selective in their intakes meaning individual performance can be poorer than on well managed set stocked system (more applicable to sheep than cattle).
- Increased labour requirements and infrastructure investment. This is quickly offset through increased output/ha and/or reduction in inputs.
- Rest period between grazing benefits persistency of herbs and legumes, both naturally occurring and sown in multi-species swards, with numerous benefits for stock performance, nitrogen fixation, biodiversity and soil health.

Biodiversity:

- Rotations create diversity in sward heights between paddocks creating more habitat for insects than in short evenly grazed swards. However, fields grazed out evenly to 4-5cm to reset pasture quality leaves little within field sward diversity.
- Swards are conventionally managed to maintain grass at the 3 leaf stage and prevent reproduction with short entry heights of 8-15cm. However, extending rest beyond conventional rest periods (+30 days in early summer), can provide the opportunity for plants to flower and sward structure to develop (this might come at the cost of quality later in the season).
- More even distribution of manure benefiting insects such as dung beetles as well as nutrient distribution. Increased stocking leads to more nutrient cycling.



Rotational grazing system with sheep and cattle

Photo credit: James Drummond

Mob Grazing

Intensive rotational grazing in which stock are grazed at high stocking density on high entry covers (>60cm) for short durations (often 1 day) with stock only consuming the top part of the sward, trampling in the rest. This is then followed by a long rest period (40–120 days).

The practice is also referred to as **holistic** or **tall grass grazing** and is said to mimic the natural grazing pattern of migratory herds of animals with pastures grazed and trampled for short durations and then allowed a long rest period.

Profit:

- Trampling of plant material 'feeds the soil' resulting in increased organic matter. This in turn leads to better water capture and storage but also infiltration during wet weather.
- Improved drought resilience through improved rooting depth, plant diversity and higher organic matter.
- Longer grazing season beyond that of conventional rotational grazing. Potential to outwinter cattle at much reduced costs.
- Promotes plant species diversity leading to greater variety of food sources of differing nutritional value and mineral content benefiting livestock health.
- Tall covers mean that stock aren't grazing in the 'parasite zone' with potential to reduce worm burdens and anthelmintic use.
- Lower stocking rate and output/ha compared to conventional rotational grazing with similar, or higher, labour and infrastructure requirements.
- Potentially less suited to high productivity sheep flocks or dairy cattle with potential for poorer stock performance. Native cattle are well suited to the system.

Biodiversity:

- Long rest periods allow plants to flower and seed. This can lead to much greater plant species diversity, provides greater diversity of pollen, and more of it through the season for insects and provides a valuable food source for birds and mammals.
- Plants are allowed to fully express their growth potential with swards not grazed until 30 to 60cm+ leading to substantial and diverse sward structures creating habitat for insects, birds and mammals.
- Long rest periods and allowing plants to fully set seed can facilitate long term persistency of species that would otherwise be lost under set stocking or conventional rotational grazing. Potential for substantially increased plant species diversity.
- Heavy covers may shade out smaller plants, alter pasture diversity and do not benefit all wildlife (e.g. certain ground nesting birds) so location and habitat objectives must be considered.



Cattle on a mob grazing system

Photo credit: Clem Sandison

Deferred Grazing

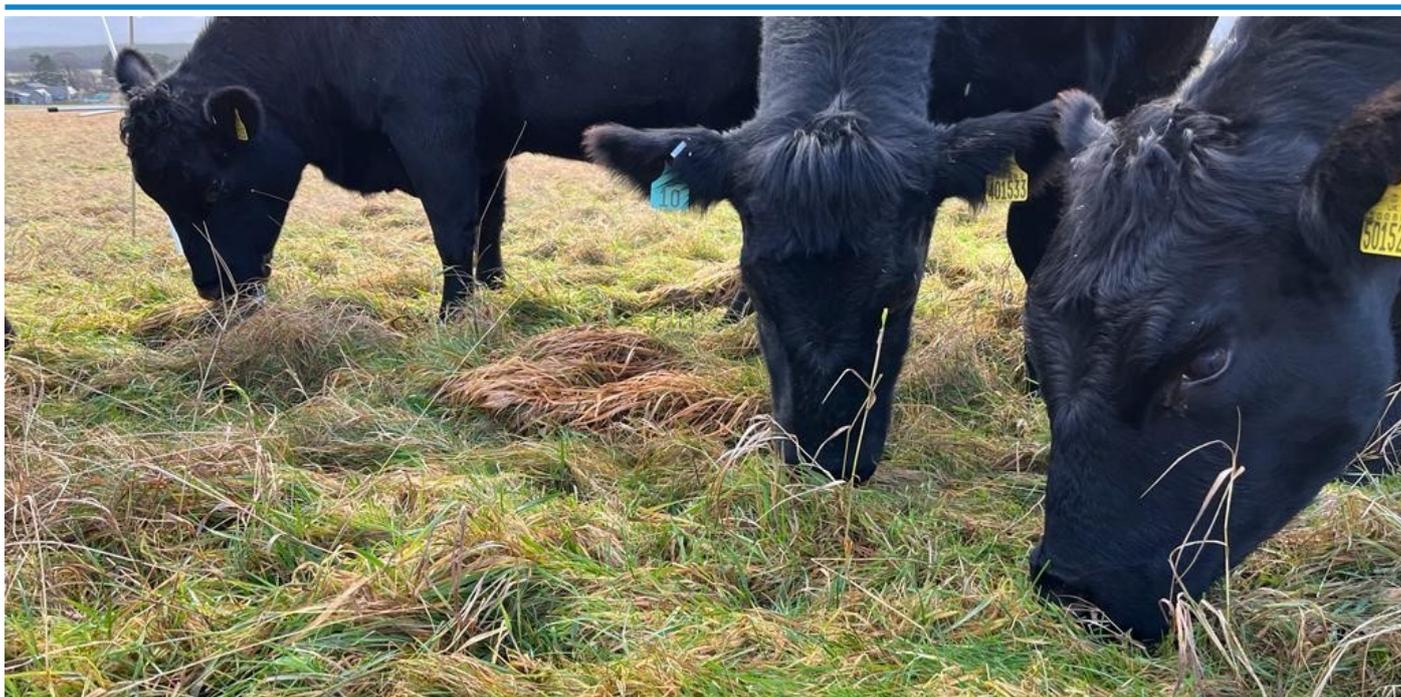
The practice of removing stock from certain fields to allow pasture covers to build up for grazing later in the year. Sometimes referred to as 'standing hay'.

Profit:

- Avoids cost and labour of conservation into hay or silage.
- Extended grazing season leading to a reduced winter feeding period and cost.
- Reduce/eliminate housing period with substantial savings in wintering costs, infrastructure requirements and handling of manures.
- Fields are removed from summer production, although less silage/hay made. Improves grazing quality on the main grazing rotation for the summer by shortening the rotation in response to grass growth.
- If deferred early in season, the long rest period leads to a higher proportion of dead leaf and stem meaning pasture quality can be poor. As such the system, best suits dry cows or ewes with the core aim of reducing winter feed costs.

Biodiversity:

- Long rest periods provide the opportunity for significant biodiversity benefits in terms of providing food sources and structural diversity similar to mob grazing whilst running a more conventional system.
- Long terms changes to species diversity and extent of above benefits will depend on when pasture is deferred. For example, close off in Spring/Summer during the plant reproductive phase will allow plants to flower and seed but this will not occur to same extent if deferred from August onwards.



Cattle on deferred grazing

Photo credit: Duncan Miller

Links for more information

[FAS TN686 Conservation Grazing for Semi-Natural Habitats](#)

[FAS Grazing for Profit and Biodiversity: Multi-Species Swards](#)

[FAS Farming for a Better Climate; Practical Guide Comparing Grazing Methods](#)

[FAS Mob Grazing with Beef Cattle](#)

[FAS Rotational Grazing](#)



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