

SUTHERLAND MONITOR FARM Introducing Rotational Grazing

THE CHALLENGE

Jason and Victoria Ballantyne wanted to maximise their grass productivity and improve growth rates by introducing a managed grazing plan. It was agreed with the community group that rotational grazing at Clynelish should be introduced, having been advised of the benefits and the contribution towards improving their profitability this could bring to them by Trevor Cook, Vet and Sheep & Beef Production Consultant from New Zealand.

Why? – Grass is the cheapest feed!.....Rotational grazing has many benefits and it is an extremely effective system once it is set up. With Clynelish very much a forage -based farm, Jason and Victoria were keen to maximise the grass growth rates and to improve utilisation.

Benefits - The general rule of thumb is that a well-managed controlled grazing programme can increase quality forage production by 50% each year. Much of this increase in forage is achieved by minimizing grazing the regrowth in the pasture. Grass that is being grazed every few days has little time to recover from grazing before being grazed again. It loses root mass and energy reserves and has greatly reduced forage production over the grazing season. A plant that has time to recover from a single grazing incident for three weeks or more before being grazing again has more resources to put into growth and can produce more forage. Controlled grazing does several things to improve pasture soil fertility and organic matter:-

Improves the quality of the grazing

- Less waste on forage
- Less soil compaction
- Improves soil fertility
- Extends the grazing season
- Allows better regeneration of growth
- Enhances plant root systems
- Increased biodiversity

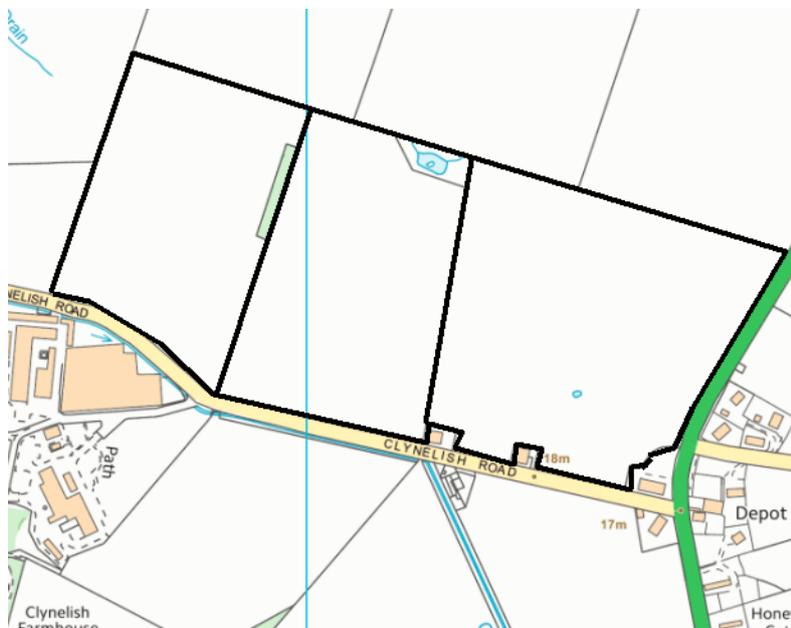
WHAT WE DID ON FARM

A plan was discussed following Trevor Cooks visit in September 2017 and established to determine which fields would be best suited for the rotational grazing. The key factors of access, water and movability was taken into consideration. Jason & Victoria were to ensure the process of moving the livestock was as easy and seamless as possible. The below three fields were identified as the initial fields to be used for the first set up of the rotational

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grazing. All three fields are easily accessible by numerous gateways, in addition there was a supply of water available. The plan was to set up 2ha x 2days x 40 paddocks = 80 days.



Map of rotational grazing areas

All the internal electric fencing and infrastructure was purchased then over a number of days, it was fully set up to take into account the following principles:-

- Rotation length is set by the required end pasture cover
- In the winter, grazing per break should be a maximum of 4 days
- Residual dry matter (RDM) should be used as a guide to adequacy of feeding
- >1200kgDM/ha – full intake
- <950kgDM/ha – below maintenance
- To utilise over 80% of the pasture grown

Knowing grass supply helps to meet livestock demand so planning is vital. At Clynelish the grass was measured and assessed every few days by using the QMS sward stick. The below tables from IBERS/AHDB details the ideal sward height targets for both sheep and cattle:

Class of Stock	Grazing Period	Rotational Grazing		Set Stocking (cm)
		Pre-graze (cm)	Post-graze(cm)	
Ewes & Lambs	Turn out May	8-10	4-5	4
	May - weaning	8-10	4-6	4-6

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Pre-tupping	Sep - Nov	8-10	4-5	6-8
Weaned Finishing Lamb	Jul -Sep	10-12	5-7	6-8

Class of Stock	Grazing Period	Rotational Grazing		Set Stocking (cm)
		Pre-graze (cm)	Post-graze (cm)	
Cows & calves	Turn out May	10-14	5-6	5-6
	June - July	12-15	7-8	7-9
	Aug - Nov	12-15	8-9	7-9
Growing/finishing	Turnout May	10-15	5-6	5-6
	June - July	10-14	6-7	6-7
	Aug - Nov	10-15	7-8	7-8

At Clynelish Jason & Victoria tried to ensure the grass was grazed at the correct cover and then stock moved in rotation. Ideally having the ability to weigh the stock would have been very beneficial to monitor the liveweight gains. Clynelish have no means of weighing of stock but in 2019, a request via the Innovation fund which was fully granted and will see the purchase of Weighing Equipment arriving at Clynelish in time for Spring.

The below table, supplied by Trevor Cook gives a guide on estimating intake requirements depending what level of growth rate is targeted:-

Notes for estimating % live weight for daily feed requirements						
Growth rates		Maint.	Above maint.	Medium	High	V high
Lambs (g/day)		0	50 g/day	150 g/day	250 g/day	300+g/day
Yearling cattle (kg/day)		0	0.3 kg/day	0.8 kg/day	1.5 kg/day	2.0+kg/day
DM Intake as % of LWT		2%	2.5%	3%	3.5%	4%
Multiply by:		0.02	0.025	0.03	0.035	0.04
				(For ewes & cows in peak lactation & lambs on high quality feed, use 5% x 0.05)		

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RESULTS

Over the winter of 2017/18 the rotational grazing proved to be a challenge due to the extremely wet conditions and mob numbers of sheep were not as tightly grazed as originally planned as explained by Victoria at the monitor farm meeting on the 30th January 2018. However, into the early spring and the applications of fertilizer on the 15th of March saw a steady improvement of grass growth ahead of lambing in mid-April.



The early application of fertiliser as soil temperatures rose, and the regular rotation of the flock, followed by the cows proved to be a great success with excellent grass growth rates and yields. The pictures below show an area of the farm established for rotational grazing (middle field on map) before the livestock were brought on and the second picture shows the area rotationally grazed.



With the extremely dry summer months the grass growth then slowed down, however more fertiliser was then applied on the 1st of September which saw a boost growth in October. Into winter, additional rotational paddocks were set up ready to implement with the winter rotational grazing plan for 2019. The QMS sward stick was originally used to assist with the

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measuring of the grass, but a grass plate meter is now being used for 2019 through the Innovation Fund.

Conclusions

- Lots of challenges that you cannot control – primarily the weather and soil temperatures. Focus on what can be controlled
- Under the right conditions, grass growth can exceed expectations as early Spring showed on Clynelish.
- Be flexible to adjust mob sizes for grazing if required, with the wet winter months at Clynelish rotational grazing had to be all but abandoned due to muddy paddocks and pools of water following the snow.
- To make a profit you need to utilise over 80% of pasture grown – You need to know how much pasture is needed for the mouths to be fed. Plan and prepare a feed budget –calculate the maintenance and pregnancy intake levels and allocate enough pasture to meet these needs. Clynelish struggled to do this into the dry summer in 2018.
- Rotational Grazing is a constant balancing act.

The rotational grazing system proved a success at Clynelish despite the challenges, and several of the community group were also inspired to try rotational grazing on their own farm. This was a direct result of the monitor farm meetings.

WHAT HAS CHANGED ON FARM

Jason & Victoria found the implementation of rotational grazing to be a steep learning curve but fully support the theory behind it and can see the benefits it has brought to the farm. The assistance and guidance provided by Trevor Cook has seen a complete change in the management of the grassland at Clynelish. They are firm believers that it is the way forward so rotational grazing will now remain in place at Clynelish with the practice being applied all year round, starting in 2019.

FACILITATOR CONTACT DETAILS

Willie Budge & Cat MacGregor
SAC Consulting
Industrial Estate, Janetstown, Thurso, Caithness, KW14 7XF
01847 892602. Email: fbsthurso@sac.co.uk

