

Grass is an extremely important crop for UK beef and sheep systems, providing between 85% and 95% of energy requirements. Furthermore, grazed grass is the cheapest feed on farm and therefore when well-managed it has the potential to reduce input costs significantly. Through measuring grass availability and growth then it is possible to balance feed supply with demand and optimise production from grazed grass.

What is a sward stick?

Monitoring sward height is a useful way to increase grass utilisation. A sward stick is just one tool that can be used to easily measure the average height of grass within a field. This figure can be used to give an indication of average grass cover for a field and help improve utilisation.

Maximum grass production is reached at covers between 1,500 – 2,500kg DM/ha, which equates to around 5 to 12cm. Grazing at these optimum points and resting pasture when cover is down to 1,250 – 1,500kg DM/ha can optimise grass utilisation and sustain a quality sward.


Outlined below are the recommended sward height targets for sheep and cattle. The targets have been generated from livestock research and are based on a combination of what is ideal for the plant and for the animal. They differ over the season due to the growth pattern of grass e.g. short in the spring when it grows fast and may “get away” if not grazed tightly. They also differ for beef and sheep due to how they eat; cattle need to wrap their tongues around the grass to feed, while sheep nibble.

Sheep sward height targets

Class of stock	Grazing period	Rotational grazing		Set stocking (cm)
		Pre-graze (cm)	Post-graze (cm)	
Ewes and lambs	Turn-out - May	8 - 10	4 - 5	4
	May - weaning	8 - 10	4 - 6	4 - 6
Pre-tupping	Sept - Nov	8 - 10	4 - 5	6 - 8
Weaned finishing lambs	Jul - Sept	10 - 12	5 - 7	6 - 8

Cattle sward height targets

Class of stock	Grazing period	Rotational grazing		Set stocking (cm)
		Pre-graze (cm)	Post-graze (cm)	
Cows and 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	Turn-out - May	10 - 12	5 - 6	5 - 6
	June - July	10 - 14	6 - 7	6 - 7
	Aug - Nov	10 - 15	7 - 8	7 - 8



cm	Spring	Late Spring	Summer
	(kg DM per ha)		
15	3250	3930	4610
14	3130	3740	4340
13	3010	3550	4080
12	2880	3350	3820
11	2750	3150	3560
10	2620	2960	3290
9	2470	2750	3030
8	2320	2540	2770
7	2150	2330	2500
6	1980	2110	2240
5	1780	1880	1980
4	1580	1650	1710
3	1340	1400	1450
2	1050	1120	1190
1	680	800	930

How to use a sward stick?

- Walk each field in a "W" pattern
- Take about 40 height readings per field (ignore stems, flowers or weeds). Height is measured to where the highest leaf touches the stick
- Avoid unrepresentative areas e.g. gateways
- The correct season should be selected and the estimated kg DM per ha can be read off the stick
- An average value for the field should be calculated and recorded
- When grass is growing rapidly, measurements should be taken every two weeks and can be decreased to monthly when it is growing more slowly

What does a sward stick tell me?

Grass growth and demand – measuring fields once animals have been removed and then again two weeks later, will enable grass growth to be estimated.

Estimates of kg DM per ha can be utilised to predict grass demand using the weight of stock and their potential intakes (dry stock less than 2.5% and high performing stock more than 2.5% of bodyweight). For example, a 400kg growing beef animal, predicted to eat 3% of bodyweight will be allocated 12kg DM, therefore a group of 30 animals will need 360kg DM per day. This information plus the area available, the total kg DM per ha measured and target residue (the amount left) can be used to plan stocking rates.

HELPING YOU MANAGE GRAZING UTILISATION

MEASURE AVERAGE PASTURE COVER

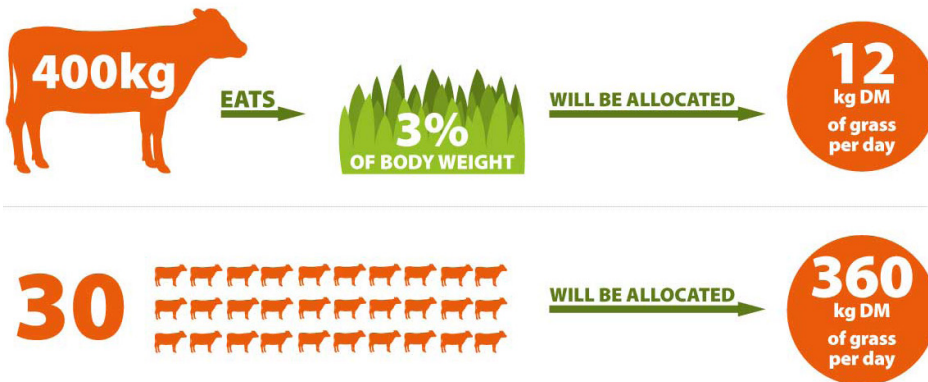
1. Choose season
2. Use clipboard/hand with gentle pressure to compress grass
3. Record pasture cover
4. Visit www.rumenco.co.uk for guidance on how to interpret your results

Data based on NZ assumptions. Source: AgResearch and FarmAid2

cm	Autumn (kg DM per ha)	Winter
15	4210	3050
14	3970	2890
13	3720	2730
12	3480	2580
11	3240	2420
10	3000	2260
9	2750	2100
8	2510	1940
7	2270	1780
6	2020	1620
5	1780	1460
4	1540	1300
3	1290	1140
2	1050	990
1	810	830

PREDICT GRASS DEMANDS

Estimates of yield in kg DM per hectare can be used to predict grass demand



Manage stocking rates – sward height can be used to ensure stocking rates are appropriate for set stocked systems and can help plan rotations. Fields in front should be monitored to see what is happening. If fields are not recovering then the rotation can be slowed or adjusted accordingly. And if grass is growing quickly the rotations can be speeded up or fields removed from the rotation for silage (this should be taken as soon as practically possible to allow the field to return to the rotation).

Table below outlines the targets kg DM per ha for beef and sheep

Beef	Sheep
<ul style="list-style-type: none"> - Maximum cover 2,500kg DM/ha - Ideal post-grazing target (residual) 1,500kg DM/ha - For set stocking aim for 2,000 to 2,500kg DM/ha - For animals with high feed requirements e.g. growing stock, cows in early lactation aim for residual of 1,800kg DM/ha 	<ul style="list-style-type: none"> - Maximum cover 2,200kg DM/ha - Ideal post-grazing target (residual) 1,500kg DM/ha - For set stocking aim for 1,800 to 2,000kg DM/ha - For animals with low feed requirements e.g. dry ewes, fit ewes during early/mid-pregnancy, aim for residual of 1,200kg DM/ha

For more information please refer to AHDB's manual Planning Grazing Strategies for Better Returns.