

Grassland Management

Animal requirements

Lactating Dairy Cows

Approx 4% of body weight

Holstein Friesian	20kgDM
British Friesian	18kgDM
Jersey	14kgDM

Within breeds higher yielding animals will have bigger intake requirements.

Dry Cows and cattle

Approx 2% of bodyweight

Grass Intake

Animals will utilise approx 95% of grass allocated to them.

For an intake of 19kgDM, an allocation of 20kgDM is required.

e.g	Paddock size 1.5 acre	=	0.607 ha
	No. Dairy Cows	=	45
	Grass cover	=	1500
	Total Grass available	=	910kgDM
	Grass per cow	=	20kgDM
	Grass intake @ 95%	=	19kgDM

To achieve 95% utilisation optimum grazing conditions are required.

Grass DM

@ 20% DM for 18kgDMI a cow will need to consume 90kg fresh grass

@ 18% DM for 18kgDMI a cow will need to consume 100kg fresh grass

@ 12% DM for 18kgDMI a cow will need to consume 150kg fresh grass

In wet condition its difficult for a dairy cow to meets its DMI requirements from fresh grass alone. In theses conditions to improve DMI a dry feed (good quality silage or concentrates) will need to be introduced.

Measuring Grass Covers

To measure grass supply on a dairy farm requires

- A farm map with area of each paddock
- Knowledge of the amount of grass (grass cover) on each paddock

Estimating the amount of grass available each paddock is done by visual assessment. The farmer can calibrate his/her own visual assessment during a farm walk.

Equipment	Method
<ol style="list-style-type: none"> 1. Shears to cut grass to 3.5 cm. 2. A quadrant 0.5m x 0.5m (internal) area = 0.25 m² 3. Microwave Oven 4. Weighing scales (2 gram accuracy) 	<ol style="list-style-type: none"> 1. Cut to 3.5 cm in quadrant area 2. Collect and weigh entire amount 3. Dry 50 gm for 10-11mins in microwave. 4. Weigh dried sample <p>(Dried weight in gm x 2 = % DM of grass)</p>
<p>Calculation</p> <p>Weight of grass cut (grms) x % DM x 40 = kg DM per ha.</p> <p>Example</p> <p>300 grms x 0.14 = 1680 kg DM per ha</p>	

Farm cover targets for summer milk production:

Period Quantity (kg DM/ha)

Closing Cover (autumn) 350+

Opening Cover (spring) 550-600

Cover at end of 1st cycle 800

Cover during Main Grazing Season 900-1000

Guidelines in Early Spring (early February - late April)

The aim in this period is to maximise the amount of grazed grass in the cows diet while at the same time aiming to have a farm grass cover of greater than **800-850 kg DM/ha by late April** (2 cows/acre).

- Aim for a target average farm cover at turnout of **600 kg DM/ha**
- Irrespective of when cows go to grass, the available grass supply should be budgeted out so as to finish the first grazing rotation in mid April (early land) or late April (late land).

Grazing Management Rules of Thumb April- June

- The first rotation should not finish before mid-April (early land) and late April on Apply 30-40 units of Nitrogen after each grazing later land.
- Ensure cows are gaining weight at the start of the breeding season
- Graze to 3.5cm during this period. Lax grazing will result in poor sward quality otherwise. See below
- Milk yield should not drop by more than 2.5% per week or 10% per month after peak milk yield is reached. Examine you're grazing management if this occurs.
- Walk the grazing area on a regular basis to assess grass supply.
- Maintain rotation length at 20-21 days.
- Supplement cows or introduce more land if grass supply runs scarce.
- Top pastures if sward quality is poor, however grass recovery will be slower.
- Aim to cut silage in late May

Main Grazing Season (May to August)

The objective over this period is to achieve high cow performance from grazed grass.

- Farm grass cover should be maintained at **900 to 950 kg DM/ha** or 200 to 220 kg DM/cow (i.e. farm cover by stocking rate) on the grazing area during the main grazing season.
- Due to variation in grass growing conditions grass supply will fluctuate
- If farm cover drops below 750 kg DM/ha during May or June either concentrate or more grass will have to be brought into the diet of the herd. **Rotation length needs to be maintained at around 20 to 21 days during May and June.**

Monitoring cow performance factors such as milk yield, milk protein content and body condition are also useful indicators as to the skill level of grassland management.

Grass Quality

Cows must have high quality (digestibility) grass to eat in order to achieve high milk protein levels.

Digestibility Variations (OMD)

Spring 84 – 86%

Summer 78-80%

	DMD%
Green leaf	75 - 80%
Green stem	60 - 70%
Mature stem	40 - 50%
Dead material	35 - 45%

Typical Grass Growth Rates Moorepark

Date	Grass Growth Rates		
	Grass Growth - Last 3 weeks (kg DM/ha/day)	Grass Growth Last Week (kg/DM/ha/day)	Grass DM (%)
13/10/2008	29	25.3	15.8
06/10/2008	39.3	34	13.6
29/09/2008	40.9	36.3	15.3
22/09/2008	50	47.3	15.9
15/09/2008	56	49.7	12.3
08/09/2008	66.2	61.8	12.8
01/09/2008	73.6	72.2	13.2
25/08/2008	73.1	70.7	13.7
18/08/2008	79.1	78.5	13.4
11/08/2008	81.5	79	12.1
05/08/2008	91.8	82.6	12.5
28/07/2008	101.1	83.4	12.5
21/07/2008	114	114	17.9
14/07/2008	99.7	109	14.7
30/06/2008	59.8	71.2	15.6
23/06/2008	45.6	47.3	17.8
16/06/2008	49.5	48.7	22.7
03/06/2008	80	63.4	16.5
26/05/2008	97.4	83.4	15.5
19/05/2008	106.5	105.2	15.8
12/05/2008	102.2	107.2	14.1
06/05/2008	99.5	92.6	14.1
28/04/2008	74.3	70.1	12.3
21/04/2008	63.2	60.1	15.7
14/04/2008	50.3	56.6	15.7
07/04/2008	39	47.3	15.5
31/03/2008	23.2	26.7	16.1
25/03/2008	20.2	23.9	13.9
18/03/2008	13.4	17.5	18
10/03/2008	9.6	10.2	19
03/03/2008	9.5	9.4	14.7
25/02/2008	10	10	20.7