

RECORD OF GRAZING EVENTS

NORTHERN RIVERS OF NSW



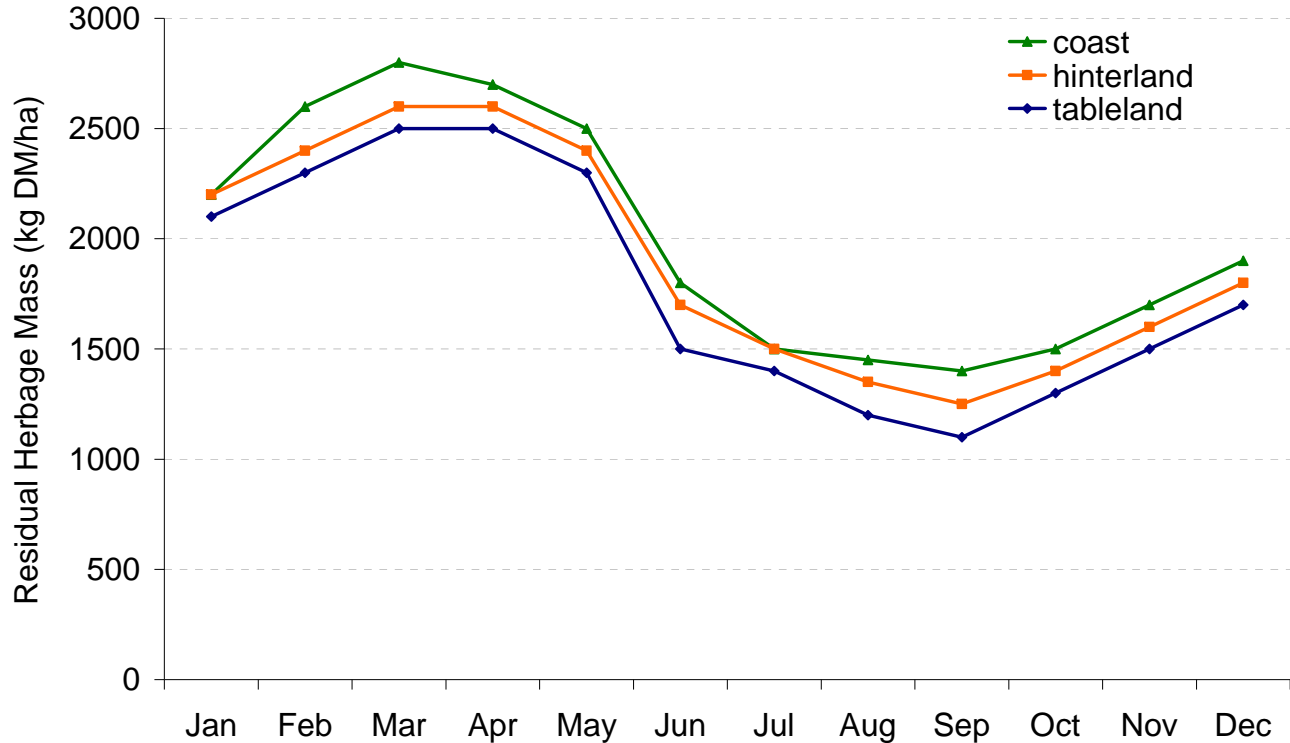
Lewis Kahn and Judi Earl
Agricultural Information & Monitoring Services



Low and ideal values for the 12 key pasture checklist points

	Low (<i>less than</i>)	Ideal
Herbage mass (kg DM/ha)	1,500	2,500 – 4,000
Herbage mass - % edible	80%	100%
Percentage green <i>spring, summer & autumn</i>	60%	more than 70%
Ground cover	95%	100%
Broadleaf plant component	5%	10 – 15%
Legume component <i>spring to early summer</i>	10%	15 – 25%
Annual grass component <i>autumn, winter & spring</i>	5%	10 – 15%
Perennial grass component	50%	60 – 80%
Diversity of perennial grasses	3	more than 7
Pasture growth rate		
- spring	10	30
- summer	25	50
- autumn	15	40
- winter	0	10
Water use efficiency	6	more than 10
Pasture utilisation rate		
- spring	15 – 20%	35 – 40%
- summer	35 – 40%	55 – 60%
- autumn	25 – 30%	45 – 50%

Residual herbage mass should be managed to vary throughout the year



Residual herbage mass is the amount of feed in the paddock at the end of a grazing event.

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Disclaimer

This publication is intended to provide general information on stock management and pasture assessment. The authors acknowledge that pasture types may vary and will not be responsible for any loss caused by reliance on this publication.

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This document was prepared by Dr Lewis Kahn and Dr Judi Earl of Agricultural Information & Monitoring Services.

Tel. 0267711273

0267792286

Email: lewis@aimsag.com.au

judi@aimsag.com.au

The purpose and use of this record of grazing events

This booklet allows you to record grazing events for your paddocks. The recording sheets (pages 7 – 53) could be used in a number of ways but we suggest that the paddocks' grazing history is recorded on a chronological basis. For example, if animals grazed *dam paddock* then *hilltop paddock* and then *road paddock*, you would enter the paddocks into the recording sheet in that order and record the dates of grazing for each paddock. We also suggest that you record the herbage mass prior to and at the end of each grazing event. Instruction is also provided for estimation of herbage mass, the percentage of the herbage that is edible and calculation of a feed budget. Tables of DSE values for cattle and sheep are provided at the end of this booklet.

This record keeping will assist you to update your grazing plan using eGraze™ produced by AIMS. The information that you record can be used within eGraze™ to determine pasture growth rate, stocking rate, water use efficiency and pasture utilisation, allowing you to compare the performance of your paddocks.

We recommend that you update your grazing plan at least every month by transferring the grazing details from this booklet into eGraze™. A range of useful software and information can be found at www.aimsag.com.au

(A) Herbage mass

- Quantity of pasture in the paddock
- Measured as kg dry matter/ha (kg DM/ha)
- Controls feed intake of animals and pasture regrowth rate
- Used to calculate feed budgets and set appropriate stocking rates

Low: less than 1,500 kg DM/ha

- Feed intake and pasture growth rate will be greatly restricted and desirable species may not persist

Ideal: 2,500 – 4,000 kg DM/ha

- Feed intake, diet selection and pasture growth rate optimised

Too much: more than 4,000 kg DM/ha

- No advantage for feed intake and pasture quality and growth rate decline, shading may reduce the number of plants

To calculate:

Step 1: Measure pasture height (in cm) from the ground to the top of the bulk of leaves; do not extend leaves and do not measure to the top of seedheads. See pasture height photo on page 5.

Step 2: Estimate pasture density in terms of kg dry matter (DM) per hectare (ha) for every centimetre (cm) of pasture height

Table: Guide to the estimation of pasture density (kg DM/ha/cm)

Pasture description	Pasture height		
	0–10 cm	10–25 cm	More than 25 cm
Sparse pasture with ground readily visible	200	150	100
Pasture with ground only occasionally visible	250	200	150
Pasture with ground not visible	300	250	200

Step 3: Multiply pasture height x pasture density

(eg. 10 cm x 250 kg DM/ha/cm = 2,500 kg DM/ha herbage mass)

Pasture density



150 kg DM/ha/cm



200 kg DM/ha/cm



250 kg DM/ha/cm



300 kg DM/ha/cm

Pasture height



(B) Herbage mass – *percentage edible*

- Percentage of herbage mass that would be eaten by livestock
- Measured as percent of herbage mass (%)
- Your estimate may change with season. For example, some plants may not be considered edible during spring or summer, when other green pasture is present but at the end of winter may be considered as a valuable source of roughage
 - Low: less than 80%
 - Marginal: 80 – 99%
 - Ideal: 100%

Feed budgeting

- Is a process used to determine how many stock can be run on an area for a given period of time
 - Feed budgeting does not determine feed quality requirements of livestock which should be assessed separately
- Is a process to guard against over and under grazing
- Requires knowledge or estimates of:
 - Grazable area, which may be a paddock or a farm
 - Type of stock to be run during a nominated period
 - DSE rating of the type of stock based on their nutritional requirements and estimated growth rate (*provided at the end of this booklet*)
 - Herbage mass at the start of the period
 - Desired herbage mass at the end of the period
 - Consult herbage mass targets provided earlier in this checklist
 - Minimum herbage mass should only be reached at the very end of the non-growing period, if at all. If minimum herbage mass is reached this should not be less than 1,500 kg DM/ha for cattle.
 - Grazing to below minimum levels will limit the rate of pasture regrowth and likely result in inadequate ground cover
- Feed budgets should be conducted in Autumn and cover the intervening period till Spring when pasture growth is resumed. For example 1st April – 1st October may be considered a useful period. This feed budget will aid stocking decisions over a difficult time of year
- Feed budgeting is an important tool which can be used in conjunction with a grazing plan

Feed budgeting

Information required:

Farm area (ha)

Length of period (days)

Type of stock during period

DSE rating for stock type

Herbage mass at start of period

Desired herbage mass at end of period

Estimated pasture growth rate (PGR)

A	Farm area (ha)	
	Start of period (date)	
	End of period (date)	
T	Length of period (days)	
S	Type of stock	
D	DSE rating (DSE/stock unit)	
HM1	Start herbage mass (kg DM/ha)	
HM2	Desired end herbage mass (kg DM/ha)	
PGR	Pasture growth rate (kg DM/ha/d)	
1	Available feed (kg DM/ha/d)	
2	Number of stock units/ha	
3	Number of stock units	

$$1. \text{ Available feed} = \frac{(\text{HM1} - \text{HM2})}{\text{T}} + \text{PGR}$$

$$2. \text{ Number of stock units/ha} = \frac{\text{available feed}}{\text{DSE rating 'D'}}$$

$$3. \text{ Number of stock units} = (\text{number of stock units/ha} \times \text{paddock area 'A'})$$

Record of grazing events

Grazing details

Paddock name	Date in	Date out	Days grazed	Herbage mass in	Herbage mass out	DSE in mob	Supplement type and amount

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DSE rating for dry cattle

Weight of steer or dry heifer (kg)	Growth rate (kg/day)	DSE rating
200	0	3.5
250	0	4.5
300	0	5.0
350	0	6.0
400	0	7.0
200	0.5	6.0
250	0.5	7.0
300	0.5	7.5
350	0.5	8.5
400	0.5	9.5
200	1.0	8.5
250	1.0	9.5
300	1.0	10.0
350	1.0	11.0
400	1.0	12.0

DSE rating for cows

Weight of cow (kg)	Pregnancy/ lactation	DSE rating
400	dry	7.0
400	pregnant early	8.0
400	pregnant late	9.5
400	lactating early	14.0
400	lactating late	17.0
500	dry	9.0
500	pregnant early	10.0
500	pregnant late	11.5
500	lactating early	16.0
500	lactating late	19.0

DSE rating for dry sheep

Weight of sheep (kg)	Growth rate (g/day)	DSE rating
30	0	0.7
40	0	0.8
50	0	1.0
60	0	1.2
30	50	0.9
40	50	1.0
50	50	1.3
60	50	1.5
30	100	1.1
40	100	1.2
50	100	1.5
60	100	1.7

DSE rating for ewes

Weight of ewe (kg)	Pregnancy/ lactation	DSE rating
40	dry	0.8
40	pregnant - single	1.0
40	pregnant - twin	1.1
40	lactating – single	2.0
40	lactating – twin	2.6
50	dry	1.0
50	pregnant - single	1.1
50	pregnant - twin	1.2
50	lactating – single	2.2
50	lactating – twin	2.8
60	dry	1.2
60	pregnant - single	1.3
60	pregnant - twin	1.4
60	lactating – single	2.4
60	lactating – twin	3.0