

Fact sheet

NORTH COAST LOCAL LAND SERVICES

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Managing cattle pastures for resilience in winter

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Management of pasture in winter is a critical skill for maintaining livestock health and protecting soil from damage. For coastal cattle producers who rely on tropical grass pastures, what's on the ground in midwinter is unlikely to grow much more before mid-spring.

Tropical pasture growth

Even under good rainfall conditions, we'd typically expect tropical species like Kikuyu, Rhodes grass and Setaria to only grow 2-3Kg of dry matter per Hectare per day in winter, compared to its summer peak of 45-55Kg/day in February and March. It's even worse for "naturalised" species like carpet grass on poorer soil types with no legumes, or areas that have had frosts.



Figure 1: Maintaining a sufficient residual pasture after grazing is critical to winter management.

In dry times pastures mustn't be over-grazed. This ensures that there is residual plant cover to allow regrowth, to protect the soil, maintain soil biology in the root zone and allow rainfall to infiltrate into the soil quickly, avoiding erosion. Good groundcover prevents weed invasion.

Pasture mass assessment

Several methods can calculate pasture mass, but pasture rulers are a simple, low-cost tool and are available from Meat and Livestock Australia. To use, place the ruler vertically into the sward and slide your thumb down until you touch a green leaf. Take at least 20 measurements across the paddock and average the scores. Score unpalatable weeds as zero. Record and review the results.



Figure 2- MLA pasture ruler

If you don't have a pasture measurement tool use your boots! As a rough guide, the heel of an elastic-



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sided boot is 3cm tall. If the grass reaches the bottom of the elastic panel, this is around 6-7 cm.

Making high visibility marks on the inside arch side of a gumboot will also do the job, leaving you hands-free to record your measurements in a notebook.

To convert pasture height to dry matter yield use the following rough calculation. The first 3cm is equivalent to 1,000kg DM/Ha, for every centimetre taller add another 200kg DM/Ha.

This calculation assumes pasture cover is moderately dense, and mainly green. Adjust results as required.

The preferred range of DM/Ha for optimum cattle and pasture productivity is between 1,500 – 2,500kg DM/ha.

Residual pasture height

Assess how much leafy feed is left after grazing. Look between any un-grazed tussocks and old dung patches to make this assessment on what has been grazed.

Cattle are very selective grazers. There is a reason why they don't eat everything on offer. Putting them back into a paddock too soon will result in overgrazing of the palatable species, rather than "evening out" the sward. Mow off ungrazed areas if required.



Figure 3- Naturalised pasture. Don't include refused feed in your assessment

Aim to leave behind a residual pasture height of 6cm. In a dense pasture of palatable species, a 6 cm residual means leaving behind 1,500-1,600kg of dry matter per hectare. This amount varies depending on Local Land Services, August, 2019

the pasture density and the proportions of green to dead leaf. Leaving adequate leafy material is required for regrowth.

Where pasture cover across the farm is dropping below 1,500kg/Ha, adjust stock numbers and introduce supplementary feed to maintain adequate groundcover for longer.

Temperate pastures/crops

Maintaining 6cm residuals is vital for winter growing legumes and temperate winter grasses like Ryegrass, to allow maximum regrowth in the peak growing period.

Winter cereals such as Oats, Barley and Triticale require different residuals to ensure that the growth node is not eaten (no lower than 5cm for dwarf varieties or 10cm for more upright types). Feel the primary tiller for the growth node to determine the correct residual height before grazing.

Short pasture

A pasture height of 3cm (1,000 kg/DM/Ha) is the critical stop point for grazing. Pasture cover to protect soil is compromised and it will take much longer for plants to recover as there is less leafy material to capture sunlight.

Cattle will be unable to harvest enough pasture to maintain body condition and will burn energy wandering around looking for feed. This often results in rapid weight loss.

Stock will be susceptible to picking up clostridial diseases such as Blackleg from exposed soil.
Remove stock from these paddocks.



Figure 4- this pasture needs rest, and has much less than 1,000kg DM/Ha pasture mass, with 60% groundcover.

Total vs Available pasture

When planning grazing allocations, it is essential to consider that not all the pasture in a paddock is available for grazing

$$\text{Available pasture} = \text{Total Pasture} - \text{Residual}$$

For example, a pasture that is 11cm tall (2,600kgDm/Ha) that you plan to leave a 1,500kg residual has 1,100kgDM/Ha available for grazing.

This dry matter measurement will vary depending on the density of the pasture, and the proportion of undesirable species.

Feed Quality

Pasture yields over 3,000kg DM/Ha are likely to be declining in quality (less digestible) with increased stem and dead material.

Visually assess the maturity of the pasture and amount of leaf to get a rough indicator of feed value. For more precise assessment, use a feed quality testing service.

The reverse side of the MLA pasture ruler has some livestock feed requirement guides. This is reproduced as Table 1 at the end of this fact sheet.



Figure 5- This heavily frosted tropical grass pasture has good cover, but very little green leaf. The managers have chosen to rest this paddock to protect the soil and allow regrowth. Leaving dead material will help protect tropical grass from further frost damage in the dormant period.

On farms where pastures are critically short, de-stocking and full feeding on a small sacrifice paddock, is required to maintain animal health and preserve groundcover.

More information

For more information on pasture assessment and feed, budgeting contact Senior Land Services Officer

Julie Dart on (02) 6659 9406, or email julie.dart@lls.nsw.gov.au

Contact your nearest office on **1300 795 299**

Resources

Beef cattle health and husbandry for the NSW north Coast book: [Beef-cattle-health-and-husbandry-for-the-nsw-north-coast.pdf](#)

This is also available in print at your nearest North Coast Local Land services office

MLA Pasture ruler- phone 1800 023 100

Table 1- Estimated minimum **available** pasture quantity (kg green DM/Ha) required to achieve targeted production levels for cattle. (*adapted from Meat and livestock Australia- pasture ruler*)

Livestock Class	Pasture energy density MJ ME/kgDM (and approximate dry matter digestibility %)		
	11.2 (75% DMD) Active pasture growth, green	10.1 (68% DMD) Late vegetative to early flowering, green	9.0 (60% DMD) Mid to late flowering, some dead
Dry Cow	700	1100	2600
Pregnant cow, 7-8 months, no calf	900	1700	
Lactating cow, calf 2 months	1100	2200	
Growing steer, 320kg			
0.61kg/day	800	1600	
0.85kg/day	1200	2600	
1.12kg/day	2200	Not Possible	

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