



Managing Pastures - Readers' Note

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Pasture utilisation

The main goal of good pasture management practice is to achieve high quality pasture that is efficiently utilised by stock over the long term. The key words are therefore **production of top quality, utilisation** and **persistence** of pasture. (In this setting *utilisation* is used to mean the consumption of pasture by cows and its conversion into milk.)

In most grazing systems there is a massive amount of waste through forage decay; small changes in grazing intensity or frequency can dramatically improve pasture productivity. The potential for improvement varies with the region.

The cost of growing 1 ha of ryegrass–clover pasture is more than \$500 a year (if grown under irrigation)—this is money wasted if some of the pasture is not utilised.

On the average dairy farm, 5–6 t dry matter (DM) per hectare per year of ryegrass or white clover pastures is utilised, but under good management up to 16tDM can be utilised. However, on the typical North Coast dairy farm, less than 3 t DM/ha/year is utilised (all pastures on the farm being considered; assuming 0.8 milkers/ha; each cow receiving 0.75 t of concentrates and producing 4400 L of milk per lactation). By contrast, on the South Coast, an average of 8–10tDM/ha/year is utilised.

Table 1 shows the potential production achievable on commercial dairy farms with present technology for the most common pasture types. (Obviously one of the greatest limitations is irrigation availability, particularly the further north you are.)

Table 1. Potential pasture production achievable on commercial dairy farms.

Pasture type	Yield (t DM/ha /year)	Notes
Perennial ryegrass + white clover	15	
Perennial ryegrass + nitrogen	16	At 200–250 kg N/ha/year
Annual ryegrass + nitrogen	14	On a kikuyu-based pasture but does not include the kikuyu
Kikuyu + white clover	18	If nematodes are not a problem
Kikuyu + nitrogen	9	Quality is the limiting factor
Lucerne	15	

Calculating pasture utilised

To be convinced of the benefits of adopting better grazing management, you need to be able to compare your present level of utilisation with the potential.

Accurate determination of pasture utilised is very time-consuming, but an acceptable estimate can be made from data readily found on-farm. For this estimate, assume 1kgDM gives 1L of milk. This estimate is based on the method developed in Victoria as part of the Target 10 extension project⁽¹⁾.

Step 1: Convert feed brought onto property during past 12 months into 'pasture DM' equivalence:

t hay* × 0.77	
t pasture silage (as fed) × 0.28	
t maize silage (as fed) × 0.26	
t grain or pellets × 1.1	
Total brought-in feed (tDM)	B:

* or tropical grass pasture; 40 square bales per tonne or 4.5 round bales (1.2 m) per tonne

Step 2: Calculate milk production from pasture:

Your annual milk prodn (L) ÷ 1000	A:
Brought-in feed (B from step 1)	B:
Total feed consumed on farm (A – B)	C:
Pasture utilised/ha (C ÷ milking ha)	

= t DM consumed per ha

This estimate tends to lose its accuracy if milk production per cow is much above 6000L, as maintenance requirements decline relative to milk production.

You can now compare the value for tonnes DM utilised with previous years' production and with production on other farms. As a rough guide:

- < 2 t DM/ha consumed—read this manual
- 2–5tDM/ha consumed—average
- 5–8tDM/ha consumed—excellent
- > 8 t DM/ha consumed—we'll do a case study!