

# CARRYING CAPACITY & DSE

## SUPPLEMENTARY INFORMATION ON STOCKING RATES FOR PROPERTIES

The term DSE (Dry Sheep Equivalent) is used to describe the amount of feed or dry matter (kg DM) required to maintain a wether or non lactating ewe per day (weighing 45-50 kg).

It is used as a standard to compare between different classes of livestock and to determine stocking rates and carrying capacity of a property. A table comparing the different DSE values attributed to different livestock classes is included in the animal husbandry fact sheet.

One DSE requires 1kg of DM per day to maintain body weight. When expressed in metabolisable energy or megajoules/day one DSE is equivalent to 7.6 MJ/day.

To work out the number of DSE's currently on your property, adapt the following example to your holding:

Holding size is: **25 hectares**

Amount of useable pasture is (exclude infrastructure & bush areas): **21 hectares**

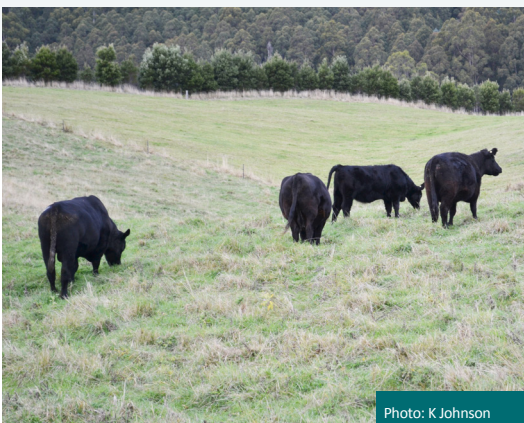


Photo: K Johnson

STOCK ON HAND			
Sheep	Number	Value of DSE	Total
<b>Sheep</b>			
Ewes with Lambs at foot	8	3.3	26.4
Dry Sheep	8	1	8
<b>Cattle</b>			
Rising 2 year old beef steers	14	10	140
Weaned 9 month old beef steers	4	8	32
<b>Horse</b>			
	1	10	10
<b>Grand Total DSE</b>			<b>216.4</b>

Divide the total DSE by the useable area of the holding:  $216.4/21 = 10.3$  DSE/ha.



Photo: D Blessing

## CALCULATING THE CURRENT STOCKING RATE

Another way of calculating the current stocking rate of a property is to divide the average liveweight per hectare by 50.

At certain times of the year when pasture quality or quantity might be limiting supplementary feed maybe required to help you meet livestock feed requirements.

The soil type, fertiliser history and pasture quality all affect the carrying capacity of a property.

### EXAMPLE.

10 dry sheep @ 60 kg each in a 2 hectare paddock. The paddock is carrying  $10 \times 60 = 600\text{kg}/(2 \text{ hectares})$  which equates to 300 kg per ha and divide by 50 (DSE value) giving you 6 DSE per hectare.

Working out potential sustainable carrying capacity is complex and neighbours who may have been in the district for a long period may be able to assist with locally relevant advice. Local agronomists can also provide further advice on the DSE rating per hectare for your region to also help you determine your property's most sustainable stocking rate.

## ESTIMATING PASTURE GROWTH RATES

The following growth rates are for a typical pasture mix of perennial ryegrass and cocksfoot with white and red clover in the high rainfall areas, grading to sub clover in the lower rainfall areas. The measurements were taken over 4 years (1992–1995) at trial sites.

These figures are the kg DM/ha/day of feed produced at the trial sites. This information can be a guide for the landholder to start from, and the figures highlight seasonal variation in pasture growth. However once again be aware that the figures can only be used as a guide, each property and management regime is different

**Estimated daily pasture growth rate (mid-month)  
of specific pasture types (kg DM/ha/day)**

Month	North West – 900mm rainfall (Elliot Research Station)	North Central – 700mm rainfall (Cressy Research Station)	Southern Midlands – 500 mm rainfall (Jericho)	
			Barley grass sub clover pasture with annual fertiliser P&K	Cocksfoot, phalaris and clover with annual fertiliser P&K
January	25	14	0	7
February	9	5	0	1
March	5	2	0	2
April	14	8	3	8
May	9	6	3	7
June	8	7	3	6
July	8	6	3	4
August	7	6	5	6
September	19	31	15	16
October	54	65	45	36
November	51	46	35	47
December	35	22	15	20

SOURCE: DPIW data, as cited by Making more from Sheep (AWI & MLA)

## FURTHER INFORMATION

Online tools are available to assist with estimating pasture growth rates for your region:

**MLA rainfall to pasture growth outlook tool:**

<http://www.mla.com.au/News-and-resources/Tools-and-calculators/Rainfall-to-pasture-growth-outlook-tool>

**Pastures from space:** [http://www.pasturesfromspace.csiro.au/map/pgr\\_mapservice.asp](http://www.pasturesfromspace.csiro.au/map/pgr_mapservice.asp)

**For more information please refer to NRM South's Healthy Farming & Environment Reference Guide:** <http://www.nrmsouth.org.au/>