

Feeding Kale

How much energy does a cow need in a day?

The following is an estimate of the energy requirements of a 500 kg dairy cow (in-calf).

The big energy items here are maintenance and condition gain, particularly if one whole condition score is to be added.

	Average MJ ME / Day	MJ ME / Day (range)
Maintenance	57	(43 – 65)
Walking	6	(2 MJ / km)
Pregnancy	25	(7 – 38)
Condition Gain	48	+ 1.0 Condition Score
Total	136 MJ ME / day	
Kale (and silage)	11 MJ ME / kg DM	
Total Intake	12.4kg DM/cow/day	
Utilisation	85%	
Allowance	14.7 kg DM/cow / day	

Best Practice for Feeding Kale as a Winter Feed Crop

- Kale if used correctly is a **very good source for winter feeding stock** contrary to some thoughts on kale (some people in the past have thought that it is an average source winter feed).
- Utilisation targets should be set at 85%. Any higher and farmers tend to under feed their stock because the quality that the stock is eating, is lower in terms of overall ME/kg/DM.
- Animal allocation and diet should be based on a plan – kg kale and kg roughage
- **Feed off along the longest face** – watch allocation especially on high yielding crops.
- It is critical to the success of grazing kale that the **breaks are big enough to allow the stock access to the correct amount of dry matter they require daily**. It is very easy it is to get this wrong. For example, if you are feeding a 300 metre face of kale (15 tonne DM/ha) you only need to have the electric fence less than 800cm shorter than it should be and beef go from a Maintenance + improving condition score to maintenance or less condition score.



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Kale Quality comparing Intermediate vs Giant Kale types

This table below shows the Botanical composition (% of total DM), quality (MJ ME/kg DM) and its impact on predicted diet quality from different kale types.

	Intermediate Stem Cultivar			Giant Stem Type		
Plant Part	% of total DM	Quality ME/kg DM	Diet Quality (MJ ME/kg DM)	% of total DM	Quality ME/kg DM	Diet Quality (MJ ME/kg DM)
Leaf	44	12.9	12.9	24	12.7	12.7
Upper Stem	11	12.4	12.8	17	11.6	12.2
Upper Mid	14	11.6	12.6	19	9.7	11.4
Lower Mid	15	9.4	12.0	20	9.8	11.0
Lower	16	8.6	11.5	20	6.6	10.1
	Intermediate Stem Cultivar			Giant Stem Type		
Plant Part	% of total DM	CP	Diet Quality CP %	% of total DM	CP	Diet Quality CP %
Leaf	44	16.7	16.7	24	17.7	17.7
Upper Stem	11	10.0	15.4	17	9.5	14.3
Upper Mid	14	7.3	15.1	19	6.2	11.7
Lower Mid	15	5.9	12.3	20	5.7	10.2
Lower	16	5.6	11.3	20	4.5	9.0

- As you eat more of the kale plant, metabolisable energy of the diet decreases.
- As you eat more of the kale plant, crude protein in the diet decreases

Glossary:

DM = Dry Matter

ME = Metabolisable Energy

MJ = Megajoules

CP = Crude Protein

Note: This information has been provided by Agricom NZ using sources that are believed to be reliable. Agricom does not give any warranty that all information contained is accurate or that all advice given in this publication will be appropriate for all circumstances. To the extent permitted by law, Agricom shall not be liable to anyone in respect of any damages suffered as a result of their reliance on this publication. © Agricom, 2010.



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