

## Feed requirements of dry cows (3-25)

### Dry cow maintenance and pregnancy requirements

Daily requirements for maintenance and pregnancy for dry cows gaining no body condition and being fed autumn pasture with an ME of 11 MJ/kg are presented in Table 1. Allowances need to be increased to allow for wastage.

**Table 1 Maintenance and pregnancy requirements no body condition score gain (kg DM/cow/day) 11.0 MJ ME/kg DM autumn pasture**  
No allowance for wastage

Breed	Kg Lwt	8 - 0 weeks pre-calving
Jersey	350	8.0
Jersey	400	9.0
J x F	450	10.0
Friesian	500	10.5
Friesian	550	11.0

### Dry cow requirements for body condition score gain

Daily requirements for maintenance, pregnancy and gaining one body condition score in 60 days (kg DM/cow/day) for dry cows being fed autumn pasture with an ME of 11 MJ/kg DM are presented in Table 2.

**Table 2 Maintenance, pregnancy and gaining one body condition score in 60 days (kg DM/cow/day) 11.0 MJ ME/kg DM autumn pasture**  
No CS gain last month of pregnancy  
No allowance for wastage

Breed	Kg Lwt	8 - 4 weeks pre-calving
Jersey	350	10.3
Jersey	400	11.5
J x F	450	12.8
Friesian	500	13.5
Friesian	550	15.0

BCS increases much more quickly when cows are offered supplements to pasture after they have been dried off. However, different feeds are used with different efficiencies for BCS gain. Energy in autumn pasture is used inefficiently for gaining BCS. Energy from feeds like pasture silage, palm kernel extract (PKE) and maize silage are used 50% more efficiently than autumn pasture (Table 3).

**Table 3**      **Approximate amounts (kg DM) of ‘commonly used feeds’ required for a 1.0 unit increase in BCS**  
No allowance for wastage

These are requirements above maintenance, activity and pregnancy requirements. They do not include wastage. Estimates of wastage can be found in *DairyNZ Facts and Figures*, page 31.

Breed	Kg Lwt <sup>1</sup>	Kg Lwt/BCS	Autumn Pasture	Pasture Silage	Maize Silage	PKE	Kale <sup>2</sup>	Swedes <sup>3</sup>	Fodder Beet <sup>2</sup>
			MJ ME/kg DM						
			11.5	10.5	10.5	11.0	11.0	11.5	12.5
Jersey	350	23	145	110	115	85	150	130	110
Jersey	400	26	165	130	130	100	175	150	125
J x F	450	30	185	145	145	110	195	170	140
Friesian	500	33	205	160	160	125	215	190	155
Friesian	550	36	225	180	180	135	235	205	170

<sup>1</sup> Liveweights are for the cow only and exclude the weight of the foetus.

<sup>2</sup> Requirements for kale and fodder beet were estimated relative to requirements for grass silage from Keogh et al. (2008).

<sup>3</sup> Requirements for swedes were estimated based on observation of cow performance on swedes relative to kale and fodder beet.

#### Notes:

- The reason why different feeds have different effects on BCS gain is currently not known, but the results are based on feeding studies in New Zealand
- The difference in feed requirements between maize silage, PKE and pasture silage is not statistically significant. This means that we cannot say with certainty that the numerical difference is real. However, this is the best information available for New Zealand farmers
- The figures presented are average feed requirements for a 1.0 unit gain in BCS
- The amount of feed required to gain BCS increases later in pregnancy. Realistically, cows do not gain BCS during the last month before calving because of the energy demands of foetal growth
- Dry (non-lactating) cows struggle to eat more than 3.5 kg of PKE/day.

#### References:

Keogh B.K, P. French, T. McGrath T. Storey and F.J. Mulligan 2008. Effect of forage allowance and forage system during the dry period on the performance of dairy cows. *Proceedings of the New Zealand Society of Animal Production* 68: 16-19