

Short Guide on ME, CP and NDF requirements - Rumens8 Tropics Course

Table 1 - ME for Maintenance (MJ ME per day)

LW kg	10 L	15 L	20 L	25 L	Dry cows
400	54	55	55	56	50
450	59	60	60	61	54
500	63	64	65	65	59
550	68	69	69	70	63
600	72	73	73	74	67

Table 2 - ME for activity (MJ ME per km)

LW kg	Flat	Undulating	Steep
400	1.2	1.9	2.9
450	1.3	2.1	3.3
500	1.4	2.3	3.6
550	1.6	2.6	4.0
600	1.7	2.8	4.4

Table 3 - ME for milk production (MJ ME per litre)

Milk fat	Milk true protein %m/v					
%mv	3.0	3.2	3.4	3.6	3.8	4.0
3.0	4.83	4.90	4.99	5.08	5.16	5.25
3.5	5.17	5.25	5.34	5.42	5.51	5.59
4.0	5.51	5.60	5.68	5.76	5.85	5.93
4.5	5.85	5.94	6.02	6.11	6.20	6.28
5.0	6.19	6.28	6.36	6.45	6.54	6.62

Table 4 - ME for pregnancy (MJ ME per day for 500 kg cow)

Days pregnant	MJ required
0-90	<1
120	1
150	3
180	5
210	8
240	15
270	27
282 (full term)	34

All tables assumes mean diet ME of 10 MJ/kg DM

Table 5 - ME required for 0.5 Condition Score GAIN (MJ ME per day)

LW kg	Lactating cows			Dry cows		
	30 days	45 days	60 days	30 days	45 days	60 days
400	40	27	20	57	38	28
450	46	30	23	64	43	32
500	51	33	25	71	47	35
550	59	39	29	78	52	39
600	66	44	33	85	57	43

Based on US 1-5 scale

Table 6 - ME generated from 0.5 Condition Score LOSS (MJ ME per day)

LW kg	Lactating cows		
	30 days	45 days	60 days
400	34	23	17
450	39	26	19
500	43	28	21
550	47	31	24
600	51	34	26

Based on US 1-5 scale

Table 7 - Requirements for protein (CP) and fibre (NDF)

Stage of lactation	CP g/kg DM	NDF g/kg DM
Early lactation	140-160	350-450
Mid lactation	130-150	400-500
Late lactation	120-130	450-550
Dry	120	500-600
Pre-calving transition	140	450-550

peNDF minimum 200 g/kg DM