

Nutrient Requirements

Brood Cows - Average Milking



UNIVERSITY OF GEORGIA
EXTENSION

Prepared by:

Lawton Stewart - Extension Animal Scientist

Legend

DMI = Dry Matter Intake

CP = Crude Protein

TDN = Total Digestible Nutrients

Ca = Calcium

P = Phosphorus

	<u>Requirements</u>				
	DMI	CP	TDN	Ca	P
	% of BW	-----%			
<u>Dry Cow (Post Weaning)</u>					
1,000 lb	1.81%	7.0	48	0.20	0.20
1,200 lb	1.86%	7.0	48	0.20	0.20
1,400 lb	1.78%	7.0	48	0.20	0.20
<u>Late Gestation (3 mo pre-calving)</u>					
1,000 lb	1.96%	8.0	53	0.26	0.21
1,200 lb	1.86%	8.0	53	0.26	0.21
1,400 lb	1.78%	8.0	53	0.26	0.21
<u>Peak Lactation (First 3 mo post-calving)</u>					
1,000 lb	2.10%	11.0	60	0.28	0.19
1,200 lb	2.00%	10.5	60	0.28	0.19
1,400 lb	1.91%	10.0	60	0.28	0.18
<u>Late Lactation (Last 3 mo pre-weaning)</u>					
1,000 lb	2.20%	9.0	55	0.24	0.17
1,200 lb	2.13%	9.0	54.5	0.24	0.17
1,400 lb	2.07%	9.0	54	0.24	0.17

Source: NRC, 2000. Adapted from NRC Nutrient Requirement of Beef Cattle

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Heifers



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	Requirements				
	DMI	CP	TDN	Ca	P
GROWING HEIFERS	% of BW	-----	-----	-----	-----
BW 400 lb					
ADG - 1.0 lb/d	2.48%	10.2	62	0.36	0.20
1.5 lb/d	2.55%	11.4	68.5	0.45	0.24
2.0 lb/d	2.50%	12.9	77	0.57	0.29
BW 500 lb					
ADG - 1.0 lb/d	2.36%	9.4	62	0.30	0.21
1.5 lb/d	2.42%	10.3	68.5	0.38	0.22
2.0 lb/d	2.36%	11.4	77	0.45	0.24
BW 600 lb					
ADG - 1.0 lb/d	2.25%	8.8	62	0.28	0.20
1.5 lb/d	2.30%	9.5	68.5	0.32	21.00
2.0 lb/d	2.25%	10.4	77	0.38	0.23
BW 700 lb					
ADG - 1.0 lb/d	2.16%	8.4	62	0.25	0.19
1.5 lb/d	2.21%	9.0	68.5	0.28	0.20
2.0 lb/d	2.17%	9.6	77	0.32	0.22
BW 800 lb					
ADG - 1.0 lb/d	2.09%	8.1	62	0.22	0.18
1.5 lb/d	2.15%	8.5	68.5	0.24	0.19
2.0 lb/d	2.10%	9.0	77	0.28	0.19
PREGNANT HEIFERS					
ADG - 1.0 lb/d	2.02%	8.5	55.1	0.26	0.20
1.5 lb/d	2.11%	9.0	60	0.30	0.21
2.0 lb/d	2.14%	9.5	66	0.34	0.22
LACTATING HEIFERS					
	2.12%	11	63	0.34	0.24

Source: NRC, 2000. Adapted from NRC Nutrient Requirement of Beef Cattle

Nutrient Requirements

Medium-Frame Steer Calves



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	Requirements				
	DMI	CP	TDN	Ca	P
	% of BW		-----%		
BW 400 lb					
ADG - 1.0 lb/d	2.60%	10.3	58.5	0.38	0.21
1.5 lb/d	2.70%	11.5	63	0.47	0.25
2.0 lb/d	2.75%	12.7	67.5	0.56	0.26
2.5 lb/d	2.75%	14.2	73.5	0.68	0.30
3.0 lb/d	2.50%	16.6	85	0.86	0.37
BW 500 lb					
ADG - 1.0 lb/d	2.46%	9.5	58.5	0.32	0.20
1.5 lb/d	2.56%	10.5	63	0.40	0.22
2.0 lb/d	2.62%	11.4	67.5	0.47	0.24
2.5 lb/d	2.60%	12.5	73.5	0.56	0.27
3.0 lb/d	2.36%	14.4	85	0.69	0.32
BW 600 lb					
ADG - 1.0 lb/d	2.35%	9.0	58.5	0.28	0.19
1.5 lb/d	2.45%	9.8	63	0.35	0.21
2.0 lb/d	2.50%	10.5	67.5	0.40	0.22
2.5 lb/d	2.48%	11.4	73.5	0.46	0.24
3.0 lb/d	2.25%	12.9	85	0.57	0.29
BW 700 lb					
ADG - 1.0 lb/d	2.26%	8.6	58.5	0.27	0.18
1.5 lb/d	2.36%	9.2	63	0.31	0.20
2.0 lb/d	2.40%	9.8	67.5	0.34	0.21
2.5 lb/d	2.39%	10.5	73.5	0.40	0.22
3.0 lb/d	2.17%	11.7	85	0.49	0.26
BW 800+ lb					
ADG - 1.0 lb/d	2.19%	8.0	58.5	0.23	0.18
1.5 lb/d	2.28%	8.4	63	0.25	0.19
2.0 lb/d	2.33%	8.8	67.5	0.28	0.20
2.5 lb/d	2.31%	9.3	73.5	0.31	0.20
3.0 lb/d	2.10%	10.1	85	0.37	0.23

Source: NRC, 2000. Adapted from NRC Nutrient Requirement of Beef Cattle

Nutrient Requirements

Growing Bulls



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	Requirements				
	DMI % of BW	CP	TDN -----%	Ca	P
BW 400 lb					
ADG - 1.0 lb/d	2.58%	11.6	57.5	0.39	0.21
1.5 lb/d	2.68%	13.4	61.5	0.49	0.25
2.0 lb/d	2.75%	15.2	65.5	0.60	0.28
2.5 lb/d	2.78%	17.0	70	0.70	0.32
3.0 lb/d	2.70%	19.3	76.5	0.84	0.37
BW 600 lb					
ADG - 1.0 lb/d	2.32%	9.2	57.5	0.30	0.79
1.5 lb/d	2.42%	10.0	61.5	0.36	0.21
2.0 lb/d	2.48%	10.8	65.5	0.43	0.24
2.5 lb/d	2.50%	11.6	70	0.50	0.25
3.0 lb/d	2.45%	12.7	76.5	0.57	0.29
BW 800 lb					
ADG - 1.0 lb/d	2.16%	8.4	57.5	0.25	0.19
1.5 lb/d	2.25%	9.0	61.5	0.29	0.20
2.0 lb/d	2.31%	9.5	65.5	0.33	0.21
2.5 lb/d	2.33%	10.1	70	0.38	0.23
3.0 lb/d	2.28%	10.8	76.5	0.44	0.24
BW 1,000 lb					
ADG - 1.0 lb/d	2.04%	8.0	57.5	0.24	0.19
1.5 lb/d	2.13%	8.4	61.5	0.26	0.19
2.0 lb/d	2.18%	8.7	65.5	0.28	0.19
2.5 lb/d	2.20%	9.1	70	0.31	0.20
3.0 lb/d	2.15%	9.6	76.5	35.00	0.21
BW 1,500 lb					
ADG - 2.0 lb/d	1.70%	6.1	65	0.22	0.19
BW 2,000 lb					
ADG - 0.0 lb/d	2.10%	6.8	48.5	0.22	0.19

Source: NRC, 2000. Adapted from NRC Nutrient Requirement of Beef Cattle