



Cattle Producer's Handbook

Nutrient Requirements of Beef Cattle

Table 1. Nutrient requirements for growing and finishing cattle (nutrient concentration in diet dry matter, avoirdupois system).^{a,b,c}

Weight (lb)	Daily Gain (lb)	Dry Matter Intake (lb)	Protein Intake (lb)	Protein (%)	ME (Mcal/lb)	NE _m (Mcal/lb)	NE _g (Mcal/lb)	TDN (%)	Ca (%)	P (%)
<i>Medium-frame steer calves</i>										
300	0.5	7.8	0.75	9.6	0.89	0.50	0.25	54.0	0.31	0.20
	1.0	8.4	0.95	11.4	0.96	0.57	0.31	58.5	0.45	0.24
	1.5	8.7	1.14	13.2	1.04	0.64	0.38	63.0	0.58	0.28
	2.0	8.9	1.32	14.8	1.11	0.70	0.44	67.5	0.72	0.32
	2.5	8.9	1.48	16.7	1.21	0.79	0.51	73.5	0.87	0.37
	3.0	8.0	1.60	19.9	1.39	0.95	0.64	85.0	1.13	0.47
400	0.5	9.7	0.87	8.9	0.89	0.50	0.25	54.0	0.27	0.18
	1.0	10.4	1.06	10.3	0.96	0.57	0.31	58.5	0.38	0.21
	1.5	10.8	1.24	11.5	1.04	0.64	0.38	63.0	0.47	0.25
	2.0	11.0	1.41	12.7	1.11	0.70	0.44	67.5	0.56	0.26
	2.5	11.0	1.56	14.2	1.21	0.79	0.51	73.5	0.68	0.30
	3.0	10.0	1.65	16.6	1.39	0.95	0.64	85.0	0.86	0.37
500	0.5	11.5	0.98	8.5	0.89	0.50	0.25	54.0	0.25	0.17
	1.0	12.3	1.16	9.5	0.96	0.57	0.31	58.5	0.32	0.20
	1.5	12.8	1.33	10.5	1.04	0.64	0.38	63.0	0.40	0.22
	2.0	13.1	1.49	11.4	1.11	0.70	0.44	67.5	0.47	0.24
	2.5	13.0	1.63	12.5	1.21	0.79	0.51	73.5	0.56	0.27
	3.0	11.8	1.69	14.4	1.39	0.95	0.64	85.0	0.69	0.32
600	0.5	13.2	1.08	8.2	0.89	0.50	0.25	54.0	0.23	0.18
	1.0	14.1	1.26	9.0	0.96	0.57	0.31	58.5	0.28	0.19
	1.5	14.7	1.42	9.8	1.04	0.64	0.38	63.0	0.35	0.21
	2.0	15.0	1.57	10.5	1.11	0.70	0.44	67.5	0.40	0.22
	2.5	14.9	1.69	11.4	1.21	0.79	0.51	73.5	0.46	0.24
	3.0	13.5	1.73	12.9	1.39	0.95	0.64	85.0	0.57	0.29
700	0.5	14.8	1.18	7.9	0.89	0.50	0.25	54.0	0.22	0.18
	1.0	15.8	1.35	8.6	0.96	0.57	0.31	58.5	0.27	0.18
	1.5	16.5	1.50	9.2	1.04	0.64	0.38	63.0	0.31	0.20
	2.0	16.8	1.65	9.8	1.11	0.70	0.44	67.5	0.34	0.21
	2.5	16.7	1.75	10.5	1.21	0.79	0.51	73.5	0.40	0.22
	3.0	15.2	1.77	11.7	1.39	0.95	0.64	85.0	0.49	0.26

^aShrunk liveweight basis, see text.

^bVitamin A requirements are 1,000 IU per pound of diet.

^cThis table gives reasonable examples of nutrient concentrations that should be suitable to formulate diets for specific management goals. It does not imply that diets with other nutrient concentrations when consumed in sufficient amounts would be inadequate to meet nutrient requirements.

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