



# Beef Cattle Library

Beef Cattle Sciences

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## Basic Nutrient Requirements of Beef Cattle <sup>1</sup>

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### Appendix 2 – Breeding Cattle

**Table 1.** Nutrient requirements for pregnant yearling heifers in the last third of pregnancy.

Weight (lb)	Daily Gain (lb)	DM Intake (lb)	Protein (%)	Protein (lb)	TDN (%)	TDN (lb)	Ca (%)	P (%)
700	0.9	15.3	8.4	1.3	55.4	8.5	0.27	0.2
	1.4	15.8	9	1.4	60.3	9.6	0.33	0.21
	1.9	15.8	9.8	1.5	67	10.6	0.33	0.21
750	0.9	16.1	8.3	1.3	55.1	8.9	0.27	0.19
	1.4	16.6	8.9	1.5	59.9	10	0.32	0.21
	1.9	16.6	9.5	1.6	66.5	11.1	0.37	0.23
800	0.9	16.8	8.2	1.4	54.8	9.2	0.28	0.2
	1.4	17.4	8.8	1.5	59.6	10.4	0.33	0.21
	1.9	17.5	9.3	1.6	66.1	11.6	0.35	0.21
850	0.9	17.6	8.2	1.4	54.5	9.6	0.26	0.2
	1.4	18.2	8.6	1.6	59.3	10.8	0.3	0.21
	1.9	18.3	9.1	1.7	65.7	12.1	0.34	0.22
900	0.9	18.3	8.1	1.5	54.3	9.9	0.26	0.2
	1.4	19	8.5	1.6	59.1	11.3	0.3	0.21
	1.9	19.2	9	1.7	65.4	12.5	0.32	0.21
950	0.9	19	8	1.5	54.1	10.3	0.27	0.2
	1.4	19.8	8.4	1.7	58.9	11.7	0.29	0.21
	1.9	20	8.8	1.8	65.1	13	0.32	0.21

1. This document is part of the Oregon State University – Beef Cattle Library. Published in June 2011. Prior to acceptance, this document was anonymously reviewed by two experts in the area. For further information, please visit the Beef Cattle Sciences website at <http://beefcattle.ans.oregonstate.edu>.

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**Table 2.** Nutrient requirements for dry pregnant mature cows in the middle third of pregnancy.

<b>Weight</b> <i>(lb)</i>	<b>Daily Gain</b> <i>(lb)</i>	<b>DM Intake</b> <i>(lb)</i>	<b>Protein</b> <i>(%)</i>	<b>Protein</b> <i>(lb)</i>	<b>TDN</b> <i>(%)</i>	<b>TDN</b> <i>(lb)</i>	<b>Ca</b> <i>(%)</i>	<b>P</b> <i>(%)</i>
<b>800</b>	0	15.3	7.1	1.1	48.8	7.5	0.17	0.17
<b>900</b>	0	16.7	7	1.2	48.8	8.2	0.18	0.18
<b>1000</b>	0	18.1	7	1.3	48.8	8.8	0.18	0.18
<b>1100</b>	0	19.5	7	1.4	48.8	9.5	0.19	0.19
<b>1200</b>	0	20.8	6.9	1.4	48.8	10.1	0.19	0.19
<b>1300</b>	0	22	6.9	1.5	48.8	10.8	0.2	0.2
<b>1400</b>	0	23.3	6.9	1.6	48.8	11.4	0.2	0.2

**Table 3.** Nutrient requirements for dry pregnant mature cows in the last third of pregnancy.

<b>Weight</b> <i>(lb)</i>	<b>Daily Gain</b> <i>(lb)</i>	<b>DM Intake</b> <i>(lb)</i>	<b>Protein</b> <i>(%)</i>	<b>Protein</b> <i>(lb)</i>	<b>TDN</b> <i>(%)</i>	<b>TDN</b> <i>(lb)</i>	<b>Ca</b> <i>(%)</i>	<b>P</b> <i>(%)</i>
<b>800</b>	0.9	16.8	8.2	1.4	54.5	9.2	0.26	0.2
<b>900</b>	0.9	18.2	8	1.5	54	9.8	0.27	0.21
<b>1000</b>	0.9	19.6	7.9	1.6	53.6	10.5	0.26	0.2
<b>1100</b>	0.9	21	7.8	1.6	53.2	11.2	0.26	0.21
<b>1200</b>	0.9	22.3	7.8	1.7	52.9	11.8	0.26	0.21
<b>1300</b>	0.9	23.6	7.7	1.8	52.7	12.5	0.26	0.21
<b>1400</b>	0.9	24.9	7.6	1.9	52.5	13.1	0.26	0.21

**Table 4.** Nutrient requirements for two-year-old heifers nursing calves during the first 3-4 months postpartum (10 lbs. milk/day).

<b>Weight</b> <i>(lb)</i>	<b>Daily Gain</b> <i>(lb)</i>	<b>DM Intake</b> <i>(lb)</i>	<b>Protein</b> <i>(%)</i>	<b>Protein</b> <i>(lb)</i>	<b>TDN</b> <i>(%)</i>	<b>TDN</b> <i>(lb)</i>	<b>Ca</b> <i>(%)</i>	<b>P</b> <i>(%)</i>
<b>700</b>	0.5	15.9	11.3	1.8	65.1	10.3	0.36	0.24
<b>750</b>	0.5	16.7	11	1.8	64.4	10.8	0.34	0.24
<b>800</b>	0.5	17.6	10.8	1.9	63.8	11.2	0.34	0.24
<b>850</b>	0.5	18.4	10.6	1.9	63.2	11.6	0.33	0.23
<b>900</b>	0.5	19.2	10.4	2	62.7	12	0.33	0.23
<b>950</b>	0.5	20	10.2	2	62.3	12.5	0.32	0.23
<b>1000</b>	0.5	20.8	10	2.1	61.9	12.9	0.31	0.23

**Table 5.** Nutrient requirements for cows nursing calves with average milking ability during the first 3-4 months postpartum (10 lbs. milk/day).

<b>Weight</b> <i>(lb)</i>	<b>Daily Gain</b> <i>(lb)</i>	<b>DM Intake</b> <i>(lb)</i>	<b>Protein</b> <i>(%)</i>	<b>Protein</b> <i>(lb)</i>	<b>TDN</b> <i>(%)</i>	<b>TDN</b> <i>(lb)</i>	<b>Ca</b> <i>(%)</i>	<b>P</b> <i>(%)</i>
<b>800</b>	0	17.3	10.2	1.8	58.2	10.1	0.03	0.22
<b>900</b>	0	18.8	9.9	1.9	57.3	10.8	0.28	0.22
<b>1000</b>	0	20.2	9.6	2	56.6	11.5	0.28	0.22
<b>1100</b>	0	21.6	9.4	2	56	12.1	0.27	0.22
<b>1200</b>	0	23	9.3	2.1	55.5	12.8	0.27	0.22
<b>1300</b>	0	24.3	9.1	2.2	55.1	13.4	0.27	0.22
<b>1400</b>	0	25.6	9	2.3	54.7	14	0.27	0.22

**Table 6.** Nutrient requirements for cows nursing calves with superior milking ability during the first 3-4 months postpartum (20 lbs. milk/day).

<b>Weight</b> <i>(lb)</i>	<b>Daily Gain</b> <i>(lb)</i>	<b>DM Intake</b> <i>(lb)</i>	<b>Protein</b> <i>(%)</i>	<b>Protein</b> <i>(lb)</i>	<b>TDN</b> <i>(%)</i>	<b>TDN</b> <i>(lb)</i>	<b>Ca</b> <i>(%)</i>	<b>P</b> <i>(%)</i>
<b>800</b>	0	15.7	14.2	2.2	77.3	12.1	0.48	0.31
<b>900</b>	0	18.7	12.9	2.4	69.8	13.1	0.41	0.28
<b>1000</b>	0	20.6	12.3	2.5	67	13.8	0.39	0.27
<b>1100</b>	0	22.3	11.9	2.6	65.2	14.5	0.38	0.27
<b>1200</b>	0	23.8	11.5	2.7	63.7	15.2	0.36	0.26
<b>1300</b>	0	25.3	11.2	2.8	62.6	15.9	0.36	0.26
<b>1400</b>	0	26.7	11	2.9	61.7	16.5	0.35	0.26

