

**Table 4. Nutrient Requirements of Mature Beef Cows**

Months Since Calving	Milk (lb/day)	DMI (lb/day)	Diet Nutrient Density						Daily Nutrients per Animal							
			TDN (%DM)	ME (Mcal/lb)	NE <sub>m</sub> (Mcal/lb)	CP (%DM)	Ca (%DM)	P (%DM)	TDN (lb)	ME (Mcal)	NE <sub>m</sub> (Mcal)	CP (lb)	Ca (lb)	P (lb)	Vit. A (1000's IU)	
<b>900 lb Mature Weight</b>																
<b>10 lb Peak Milk</b>																
1	8.3	20.2	56.2	0.94	0.55	8.9	0.24	0.17	11.4	19.0	11.1	1.79	.049	.033	36	
2	10.0	20.6	57.0	0.95	0.56	9.3	0.25	0.17	11.7	19.6	11.7	1.92	.053	.035	36	
3	9.0	21.4	54.8	0.92	0.53	8.6	0.23	0.16	11.7	19.7	11.3	1.84	.051	.035	38	
4	7.2	21.0	53.8	0.90	0.51	8.1	0.22	0.15	11.3	18.9	10.8	1.70	.046	.031	37	
5	5.4	20.5	52.8	0.88	0.50	7.7	0.20	0.14	10.8	18.0	10.2	1.57	.042	.029	36	
6	3.9	20.2	52.0	0.87	0.49	7.2	0.18	0.13	10.5	17.6	9.8	1.45	.037	.026	36	
<b>20 lb Peak Milk</b>																
1	16.7	22.6	60.2	1.01	0.61	10.8	0.30	0.20	13.6	22.8	13.8	2.44	.068	.044	40	
2	20.0	23.5	61.6	1.03	0.64	11.5	0.33	0.21	14.5	24.2	14.9	2.70	.077	.051	42	
3	18.0	23.8	59.2	0.99	0.60	10.7	0.30	0.20	14.1	23.6	14.3	2.54	.073	.046	42	
4	14.4	22.9	57.6	0.96	0.57	9.9	0.28	0.18	13.2	22.0	13.1	2.26	.064	.042	41	
5	10.8	21.9	55.8	0.93	0.55	9.1	0.25	0.17	12.2	20.4	12.0	1.99	.055	.037	39	
6	7.8	21.1	54.3	0.91	0.52	8.3	0.22	0.15	11.5	19.2	11.0	1.76	.046	.033	37	
<b>30 lb Peak Milk</b>																
1	25.0	24.9	63.6	1.06	0.67	12.4	0.36	0.23	15.8	26.4	16.5	3.09	.088	.057	44	
2	30.0	26.3	65.4	1.09	0.69	13.2	0.39	0.24	17.2	28.7	18.2	3.48	.101	.064	47	
3	27.0	26.3	62.9	1.05	0.65	12.3	0.36	0.23	16.5	27.6	17.2	3.24	.095	.060	47	
4	21.6	24.8	60.8	1.02	0.62	11.4	0.33	0.21	15.1	25.3	15.5	2.83	.082	.053	44	
5	16.2	23.4	58.5	0.98	0.59	10.3	0.29	0.19	13.7	22.9	13.7	2.41	.068	.044	41	
6	11.7	22.2	56.4	0.94	0.56	9.3	0.25	0.17	12.5	20.9	12.3	2.06	.057	.037	39	
<b>10, 20, 30 lb Peak Milk</b>																
7	0.0	18.0	46.8	0.78	0.40	6.5	0.15	0.12	8.4	14.0	7.2	1.17	.028	.022	23	
8	0.0	18.3	47.2	0.79	0.41	6.6	0.15	0.12	8.6	14.5	7.5	1.20	.028	.022	23	
9	0.0	18.7	47.8	0.80	0.42	6.7	0.15	0.12	8.9	15.0	7.9	1.25	.028	.022	24	
10	0.0	19.4	48.8	0.82	0.43	6.9	0.24	0.15	9.5	15.9	8.3	1.34	.046	.029	25	
11	0.0	19.4	51.8	0.87	0.48	7.6	0.24	0.15	10.0	16.9	9.3	1.47	.046	.029	25	
12	0.0	19.7	55.5	0.93	0.54	8.6	0.24	0.15	10.9	18.3	10.6	1.70	.046	.029	25	
<b>1,000 lb Mature Weight</b>																
<b>10 lb Peak Milk</b>																
1	8.3	21.6	55.8	0.93	0.55	8.7	0.24	0.17	12.1	20.1	11.8	1.88	.051	.035	38	
2	10.0	22.1	56.6	0.95	0.56	9.1	0.25	0.17	12.5	21.0	12.3	2.01	.055	.037	39	
3	9.0	23.0	54.3	0.91	0.52	8.4	0.23	0.16	12.5	20.9	12.0	1.93	.053	.037	41	
4	7.2	22.5	53.4	0.89	0.51	8.0	0.22	0.15	12.0	20.0	11.5	1.80	.049	.033	40	
5	5.4	22.1	52.5	0.88	0.49	7.5	0.20	0.14	11.6	19.4	10.9	1.66	.044	.031	39	
6	3.9	21.7	51.8	0.86	0.48	7.1	0.19	0.14	11.2	18.7	10.5	1.55	.040	.029	38	
<b>20 lb Peak Milk</b>																
1	16.7	24.0	59.6	1.00	0.60	10.5	0.30	0.20	14.3	24.0	14.5	2.53	.073	.049	42	
2	20.0	25.0	60.9	1.02	0.62	11.2	0.32	0.21	15.2	25.5	15.6	2.79	.079	.053	44	
3	18.0	25.4	58.6	0.98	0.59	10.4	0.30	0.19	14.9	24.9	15.0	2.64	.075	.049	45	
4	14.4	24.4	57.0	0.95	0.56	9.7	0.27	0.18	13.9	23.2	13.8	2.36	.066	.044	43	
5	10.8	23.5	55.4	0.92	0.54	8.9	0.24	0.17	13.0	21.6	12.7	2.08	.057	.040	42	
6	7.8	22.7	54.0	0.90	0.52	8.2	0.22	0.15	12.3	20.4	11.7	1.85	.051	.035	40	
<b>30 lb Peak Milk</b>																
1	25.0	26.4	62.8	1.05	0.65	12.1	0.35	0.22	16.6	27.7	17.2	3.18	.093	.060	47	
2	30.0	27.8	64.5	1.08	0.68	12.9	0.38	0.24	17.9	30.0	18.9	3.57	.104	.066	49	
3	27.0	27.8	62.1	1.04	0.64	12.0	0.35	0.22	17.3	28.9	17.9	3.34	.097	.062	49	
4	21.6	26.4	60.1	1.00	0.61	11.1	0.32	0.21	15.9	26.4	16.1	2.92	.084	.055	47	
5	16.2	24.9	57.9	0.97	0.58	10.0	0.28	0.19	14.4	24.2	14.4	2.50	.071	.046	44	
6	11.7	23.7	55.9	0.93	0.55	9.1	0.25	0.17	13.2	22.0	13.0	2.16	.060	.040	42	
<b>10, 20, 30 lb Peak Milk</b>																
7	0.0	19.5	46.8	0.78	0.40	6.5	0.16	0.12	9.1	15.2	7.8	1.26	.031	.024	25	
8	0.0	19.8	47.2	0.79	0.41	6.6	0.16	0.12	9.3	15.6	8.1	1.30	.031	.024	25	
9	0.0	20.3	47.9	0.80	0.42	6.7	0.16	0.12	9.7	16.2	8.5	1.35	.031	.024	26	
10	0.0	21.1	48.9	0.82	0.44	6.9	0.24	0.15	10.3	17.3	9.3	1.45	.051	.032	27	
11	0.0	21.0	52.1	0.87	0.49	7.7	0.24	0.15	10.9	18.3	10.3	1.61	.051	.032	27	
12	0.0	21.4	55.9	0.93	0.55	8.7	0.24	0.15	12.0	19.9	11.8	1.86	.051	.032	27	

**Table 4 (Continued). Nutrient Requirements of Mature Beef Cows**

Months Since Calving	Milk (lb/day)		DMI (lb/day)		Diet Nutrient Density					Daily Nutrients per Animal					
					TDN (%DM)	ME (Mcal/lb)	NE <sub>m</sub> (Mcal/lb)	CP (%DM)	Ca (%DM)	P (%DM)	TDN (lb)	ME (Mcal)	NE <sub>m</sub> (Mcal)	CP (lb)	Ca (lb)
<b>1,100 lb Mature Weight</b>															
<b>10 lb Peak Milk</b>															
1	8.3	23.1	55.6	0.93	0.54	8.5	0.24	0.17	12.8	21.5	12.5	1.97	.055	.037	41
2	10.0	23.5	56.3	0.94	0.55	8.9	0.25	0.17	13.2	22.1	13.0	2.10	.060	.040	42
3	9.0	24.5	54.1	0.90	0.52	8.2	0.23	0.16	13.3	22.1	12.7	2.02	.055	.040	43
4	7.2	24.1	53.2	0.89	0.50	7.8	0.21	0.15	12.8	21.4	12.1	1.89	.051	.037	43
5	5.4	23.6	52.3	0.87	0.49	7.4	0.20	0.14	12.3	20.5	11.6	1.75	.046	.033	42
6	3.9	23.3	51.6	0.86	0.48	7.0	0.19	0.14	12.0	20.0	11.2	1.64	.044	.031	41
<b>20 lb Peak Milk</b>															
1	16.7	25.4	59.1	0.99	0.60	10.3	0.29	0.20	15.0	25.1	15.2	2.62	.075	.051	45
2	20.0	26.4	60.4	1.01	0.62	10.9	0.31	0.21	15.9	26.7	16.3	2.88	.084	.055	47
3	18.0	26.9	58.1	0.97	0.58	10.2	0.29	0.19	15.6	26.1	15.6	2.73	.077	.051	48
4	14.4	26.0	56.6	0.95	0.56	9.4	0.27	0.18	14.7	24.7	14.5	2.45	.068	.046	46
5	10.8	25.0	55.0	0.92	0.53	8.7	0.24	0.17	13.8	23.0	13.3	2.17	.060	.042	44
6	7.8	24.2	53.7	0.90	0.51	8.1	0.22	0.15	13.0	21.8	12.4	1.95	.053	.037	43
<b>30 lb Peak Milk</b>															
1	25.0	27.8	62.2	1.04	0.64	11.8	0.34	0.22	17.3	28.9	17.9	3.27	.095	.062	49
2	30.0	29.2	63.9	1.07	0.67	12.5	0.37	0.24	18.7	31.2	19.5	3.66	.108	.068	52
3	27.0	29.4	61.5	1.03	0.63	11.7	0.34	0.22	18.1	30.3	18.6	3.43	.099	.064	52
4	21.6	27.9	59.5	0.99	0.60	10.8	0.31	0.20	16.6	27.6	16.8	3.01	.086	.057	49
5	16.2	26.4	57.4	0.96	0.57	9.8	0.28	0.19	15.2	25.3	15.1	2.59	.073	.049	47
6	11.7	25.3	55.6	0.93	0.54	8.9	0.25	0.17	14.1	23.5	13.7	2.25	.062	.042	45
<b>10, 20, 30 lb Peak Milk</b>															
7	0.0	20.9	46.8	0.78	0.40	6.5	0.16	0.12	9.8	16.3	8.4	1.36	.033	.026	27
8	0.0	21.2	47.2	0.79	0.41	6.6	0.16	0.12	10.0	16.7	8.7	1.40	.033	.026	27
9	0.0	21.8	47.9	0.80	0.42	6.7	0.16	0.12	10.4	17.4	9.2	1.45	.033	.026	28
10	0.0	22.6	48.9	0.82	0.44	7.0	0.25	0.16	11.1	18.5	9.9	1.56	.057	.036	29
11	0.0	22.5	52.1	0.87	0.49	7.7	0.25	0.16	11.7	19.6	11.0	1.73	.057	.036	29
12	0.0	23.0	56.0	0.94	0.55	8.7	0.25	0.16	12.9	21.6	12.7	2.00	.057	.036	29
<b>1,200 lb Mature Weight</b>															
<b>10 lb Peak Milk</b>															
1	8.3	24.4	55.3	0.92	0.54	8.4	0.24	0.17	13.5	22.4	13.1	2.06	.057	.040	43
2	10.0	24.9	56.0	0.94	0.55	8.8	0.25	0.17	13.9	23.4	13.7	2.19	.062	.042	44
3	9.0	26.0	53.7	0.90	0.51	8.1	0.23	0.16	14.0	23.4	13.4	2.12	.060	.042	46
4	7.2	25.6	52.9	0.88	0.50	7.7	0.21	0.15	13.5	22.5	12.8	1.98	.055	.040	45
5	5.4	25.1	52.1	0.87	0.49	7.3	0.20	0.14	13.1	21.8	12.2	1.84	.051	.035	44
6	3.9	24.8	51.5	0.86	0.48	7.0	0.19	0.14	12.8	21.3	11.8	1.73	.046	.035	44
<b>20 lb Peak Milk</b>															
1	16.7	26.8	58.7	0.98	0.59	10.1	0.29	0.19	15.7	26.3	15.8	2.71	.077	.053	47
2	20.0	27.8	59.9	1.00	0.61	10.7	0.31	0.21	16.7	27.8	16.9	2.97	.086	.057	49
3	18.0	28.4	57.6	0.96	0.57	9.9	0.29	0.19	16.4	27.3	16.3	2.82	.082	.055	50
4	14.4	27.4	56.2	0.94	0.55	9.3	0.26	0.18	15.4	25.8	15.1	2.54	.073	.049	48
5	10.8	26.5	54.7	0.91	0.53	8.5	0.24	0.17	14.5	24.1	14.0	2.26	.064	.044	47
6	7.8	25.7	53.4	0.89	0.51	7.9	0.22	0.15	13.7	22.9	13.1	2.04	.055	.040	45
<b>30 lb Peak Milk</b>															
1	25.0	29.2	61.6	1.03	0.64	11.5	0.34	0.22	18.0	30.1	18.6	3.36	.099	.064	52
2	30.0	30.6	63.2	1.06	0.66	12.3	0.36	0.23	19.3	32.4	20.2	3.75	.110	.071	54
3	27.0	30.8	60.8	1.02	0.62	11.4	0.34	0.22	18.7	31.4	19.2	3.52	.104	.066	54
4	21.6	29.4	59.0	0.99	0.59	10.6	0.31	0.20	17.3	29.1	17.5	3.10	.090	.060	52
5	16.2	27.9	57.0	0.95	0.56	9.6	0.27	0.18	15.9	26.5	15.8	2.68	.077	.051	49
6	11.7	26.7	55.2	0.92	0.54	8.8	0.25	0.17	14.7	24.6	14.4	2.34	.066	.046	47
<b>10, 20, 30 lb Peak Milk</b>															
7	0.0	22.4	46.9	0.78	0.40	6.5	0.16	0.13	10.5	17.5	9.0	1.45	.037	.029	28
8	0.0	22.8	47.3	0.79	0.41	6.5	0.16	0.13	10.8	18.0	9.3	1.49	.037	.029	29
9	0.0	23.3	47.9	0.80	0.42	6.7	0.16	0.13	11.2	18.6	9.8	1.56	.037	.029	30
10	0.0	24.3	49.0	0.82	0.44	6.9	0.25	0.16	11.9	19.9	10.7	1.67	.062	.040	31
11	0.0	24.1	52.3	0.87	0.49	7.7	0.25	0.16	12.6	21.0	11.8	1.86	.062	.040	31
12	0.0	24.6	56.2	0.94	0.55	8.8	0.25	0.16	13.8	23.1	13.5	2.16	.062	.040	31

**Table 4 (Continued). Nutrient Requirements of Mature Beef Cows**

Months Since Calving	Milk (lb/day)	DMI (lb/day)	Diet Nutrient Density						Daily Nutrients per Animal						
			TDN (%DM)	ME (Mcal/lb)	NE <sub>m</sub> (Mcal/lb)	CP (%DM)	Ca (%DM)	P (%DM)	TDN (lb)	ME (Mcal)	NE <sub>m</sub> (Mcal)	CP (lb)	Ca (lb)	P (lb)	Vit. A (1000's IU)
<b>1,300 lb Mature Weight</b>															
<b>10 lb Peak Milk</b>															
1	8.3	25.8	55.1	0.92	0.53	8.3	0.23	0.17	14.2	23.7	13.8	2.15	.060	.042	46
2	10.0	26.3	55.8	0.93	0.55	8.7	0.25	0.17	14.7	24.5	14.3	2.28	.064	.046	47
3	9.0	27.5	53.5	0.89	0.51	8.0	0.23	0.16	14.7	24.5	14.0	2.20	.062	.044	49
4	7.2	27.0	52.7	0.88	0.50	7.6	0.21	0.15	14.2	23.8	13.4	2.06	.057	.042	48
5	5.4	26.6	52.0	0.87	0.49	7.3	0.20	0.15	13.8	23.1	12.9	1.93	.053	.040	47
6	3.9	26.3	51.4	0.86	0.48	6.9	0.19	0.14	13.5	22.6	12.5	1.82	.051	.037	47
<b>20 lb Peak Milk</b>															
1	16.7	28.2	58.4	0.98	0.59	9.9	0.29	0.19	16.5	27.6	16.5	2.80	.082	.055	50
2	20.0	29.1	59.5	0.99	0.60	10.5	0.31	0.21	17.3	28.8	17.6	3.06	.088	.060	51
3	18.0	29.9	57.2	0.96	0.57	9.7	0.28	0.19	17.1	28.7	16.9	2.91	.084	.057	53
4	14.4	28.9	55.9	0.93	0.55	9.1	0.26	0.18	16.2	26.9	15.8	2.63	.075	.051	51
5	10.8	28.0	54.4	0.91	0.52	8.4	0.24	0.17	15.2	25.5	14.6	2.35	.066	.046	50
6	7.8	27.2	53.3	0.89	0.51	7.8	0.22	0.15	14.5	24.2	13.7	2.13	.060	.042	48
<b>30 lb Peak Milk</b>															
1	25.0	30.6	61.2	1.02	0.63	11.3	0.33	0.22	18.7	31.2	19.2	3.45	.101	.066	54
2	30.0	32.0	62.7	1.05	0.65	12.0	0.36	0.23	20.1	33.6	20.8	3.84	.115	.073	57
3	27.0	32.3	60.3	1.01	0.62	11.2	0.33	0.21	19.5	32.6	19.9	3.61	.106	.068	57
4	21.6	30.8	58.5	0.98	0.59	10.4	0.30	0.20	18.1	30.3	18.1	3.19	.093	.062	55
5	16.2	29.4	56.6	0.95	0.56	9.4	0.27	0.18	16.6	27.9	16.4	2.77	.079	.055	52
6	11.7	28.2	55.0	0.92	0.53	8.6	0.24	0.17	15.5	25.9	15.0	2.43	.068	.049	50
<b>10, 20, 30 lb Peak Milk</b>															
7	0.0	23.8	46.9	0.78	0.40	6.5	0.17	0.13	11.2	18.6	9.5	1.54	.040	.031	30
8	0.0	24.2	47.3	0.79	0.41	6.5	0.17	0.13	11.4	19.1	9.9	1.58	.040	.031	31
9	0.0	24.8	48.0	0.80	0.42	6.7	0.17	0.13	11.9	19.8	10.4	1.66	.040	.031	31
10	0.0	25.8	49.0	0.82	0.44	6.9	0.26	0.16	12.6	21.2	11.4	1.78	.066	.042	32
11	0.0	25.6	52.5	0.88	0.49	7.8	0.26	0.16	13.4	22.5	12.5	1.99	.066	.042	33
12	0.0	26.1	56.5	0.94	0.56	8.9	0.26	0.16	14.7	24.5	14.6	2.31	.066	.042	33
<b>1,400 lb Mature Weight</b>															
<b>10 lb Peak Milk</b>															
1	8.3	27.1	54.9	0.92	0.53	8.2	0.23	0.17	14.9	24.9	14.4	2.23	.064	.046	48
2	10.0	27.6	55.5	0.93	0.54	8.6	0.25	0.17	15.3	25.7	15.0	2.36	.068	.049	49
3	9.0	28.9	53.3	0.89	0.51	7.9	0.23	0.16	15.4	25.7	14.6	2.29	.066	.046	51
4	7.2	28.5	52.5	0.88	0.49	7.6	0.21	0.15	15.0	25.1	14.1	2.15	.062	.044	50
5	5.4	28.0	51.8	0.86	0.48	7.2	0.20	0.15	14.5	24.1	13.5	2.02	.057	.042	50
6	3.9	27.7	51.2	0.86	0.47	6.9	0.19	0.14	14.2	23.8	13.1	1.91	.053	.040	49
<b>20 lb Peak Milk</b>															
1	16.7	29.5	58.0	0.97	0.58	9.8	0.28	0.19	17.1	28.6	17.1	2.88	.084	.057	52
2	20.0	30.5	59.1	0.99	0.60	10.3	0.30	0.20	18.0	30.2	18.2	3.14	.093	.062	54
3	18.0	31.3	56.8	0.95	0.56	9.6	0.28	0.19	17.8	29.7	17.6	2.99	.088	.060	55
4	14.4	30.3	55.5	0.93	0.54	8.9	0.26	0.18	16.8	28.2	16.4	2.70	.079	.053	54
5	10.8	29.4	54.1	0.90	0.52	8.3	0.24	0.17	15.9	26.5	15.3	2.44	.071	.049	52
6	7.8	28.6	53.0	0.89	0.50	7.7	0.22	0.16	15.2	25.5	14.4	2.21	.062	.044	51
<b>30 lb Peak Milk</b>															
1	25.0	31.9	60.7	1.01	0.62	11.1	0.33	0.22	19.4	32.2	19.8	3.53	.104	.068	56
2	30.0	33.3	62.2	1.04	0.64	11.8	0.35	0.23	20.7	34.6	21.5	3.93	.117	.075	59
3	27.0	33.7	59.8	1.00	0.61	11.0	0.32	0.21	20.2	33.7	20.5	3.69	.110	.073	60
4	21.6	32.3	58.1	0.97	0.58	10.2	0.30	0.20	18.8	31.3	18.8	3.27	.097	.064	57
5	16.2	30.8	56.2	0.94	0.55	9.3	0.27	0.18	17.3	29.0	17.0	2.86	.084	.057	54
6	11.7	29.6	54.7	0.91	0.53	8.5	0.24	0.17	16.2	26.9	15.7	2.52	.073	.051	52
<b>10, 20, 30 lb Peak Milk</b>															
7	0.0	25.2	46.9	0.78	0.40	6.5	0.17	0.13	11.8	19.7	10.1	1.63	.044	.033	32
8	0.0	25.6	47.3	0.79	0.41	6.5	0.17	0.13	12.1	20.2	10.5	1.67	.044	.033	33
9	0.0	26.2	48.0	0.80	0.42	6.7	0.17	0.13	12.6	21.0	11.0	1.75	.044	.033	33
10	0.0	27.3	49.1	0.82	0.44	6.9	0.26	0.16	13.4	22.4	12.0	1.89	.071	.044	35
11	0.0	27.0	52.6	0.88	0.50	7.8	0.26	0.16	14.2	23.8	13.5	2.11	.071	.044	34
12	0.0	27.6	56.6	0.95	0.56	8.9	0.26	0.16	15.6	26.2	15.5	2.45	.071	.044	35