

Errata

NUTRIENT REQUIREMENTS OF SMALL RUMINANTS

SHEEP, GOATS, CERVIDS, AND NEW WORLD CAMELIDS

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Please replace Table 15-4, pp. 272-280, and Table 15-6, pp. 288-292, with the following corrected tables.

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TABLE 15-4 Nutrient Requirements of Meat and Milk Goats (Maintenance-Gestation-Lactation)

Class/Age/Other	Body Weight ^a kg	Birth Weight or Milk Yield ^b kg	Body Weight Gain ^c g/d	Energy Concentration in Diet ^d kcal/kg	Daily Dry Matter Intake ^e kg	Energy Requirements ^f		Protein Requirements ^g			Mineral Requirements ^h		Vitamin Requirements ⁱ	
						TDN kg/d	ME Mcal/d	CP @20% UIP g/d	CP @40% UIP g/d	CP @60% UIP g/d	MP g/d	DIP g/d	Ca g/d	P g/d
Mature does (Dairy) Maintenance only														
20	1.91	0.59	2.96	0.31	1.13	40	38	36	27	28	1.3	0.9	628	106
30	1.91	0.80	2.68	0.43	1.54	54	51	49	36	38	1.6	1.2	942	159
40	1.91	1.00	2.49	0.53	1.91	67	64	61	45	48	1.9	1.5	1,256	212
50	1.91	1.18	2.36	0.62	2.25	79	75	72	53	56	2.1	1.7	1,570	265
60	1.91	1.35	2.25	0.72	2.58	90	86	82	61	64	2.4	2.0	1,884	318
70	1.91	1.52	2.17	0.80	2.90	101	97	92	68	72	2.6	2.2	2,198	371
80	1.91	1.68	2.10	0.89	3.20	112	107	102	75	80	2.8	2.4	2,512	424
90	1.91	1.83	2.03	0.97	3.50	122	116	111	82	87	3.0	2.6	2,826	477
Mature does (Nondairy) Maintenance only														
20	1.91	0.50	2.50	0.26	0.96	36	35	33	24	24	1.2	0.8	628	106
30	1.91	0.68	2.26	0.36	1.30	49	47	45	33	32	1.4	1.0	942	159
40	1.91	0.84	2.10	0.45	1.61	61	58	55	41	40	1.7	1.3	1,256	212
50	1.91	0.99	1.99	0.53	1.90	71	68	65	48	47	1.9	1.5	1,570	265
60	1.91	1.14	1.90	0.60	2.18	82	78	75	55	54	2.1	1.7	1,884	318
70	1.91	1.28	1.83	0.68	2.44	92	88	84	62	61	2.3	1.9	2,198	371
80	1.91	1.41	1.77	0.75	2.70	101	97	93	68	67	2.5	2.0	2,512	424
90	1.91	1.54	1.72	0.82	2.95	111	106	101	74	74	2.6	2.2	2,826	477
Mature does (Dairy) Breeding														
20	1.91	0.65	3.26	0.35	1.25	44	42	40	29	31	1.4	1.0	628	106
30	1.91	0.88	2.95	0.47	1.69	59	57	54	40	42	1.7	1.3	942	159
40	1.91	1.10	2.74	0.58	2.10	73	70	67	49	52	2.0	1.6	1,256	212
50	1.91	1.30	2.59	0.69	2.48	87	83	79	58	62	2.3	1.9	1,570	265
60	1.91	1.49	2.48	0.79	2.84	99	95	91	67	71	2.6	2.1	1,884	318
70	1.91	1.67	2.38	0.88	3.19	111	106	102	75	80	2.8	2.4	2,198	371
80	1.91	1.84	2.30	0.98	3.53	123	117	112	83	88	3.1	2.6	2,512	424
90	1.91	2.01	2.24	1.07	3.85	134	128	123	90	96	3.3	2.9	2,826	477
Mature does (Nondairy) Breeding														
20	1.91	0.55	2.75	0.29	1.05	40	38	36	27	26	1.3	0.9	628	106
30	1.91	0.75	2.48	0.40	1.42	54	51	49	36	36	1.5	1.1	942	159
40	1.91	0.92	2.31	0.49	1.77	67	64	61	45	44	1.8	1.4	1,256	212
50	1.91	1.09	2.19	0.58	2.09	79	75	72	53	52	2.0	1.6	1,570	265
60	1.91	1.25	2.09	0.66	2.40	90	86	82	60	60	2.2	1.8	1,884	318
70	1.91	1.41	2.01	0.75	2.69	101	96	92	68	67	2.5	2.0	2,198	371
80	1.91	1.55	1.94	0.82	2.97	111	106	102	75	74	2.7	2.2	2,512	424
90	1.91	1.70	1.89	0.90	3.25	122	116	111	82	81	2.9	2.4	2,826	477
Mature does (Dairy) Early gestation (Single kid; BW = 2.3 to 5.2 kg)														
20	2.3	9	3.50	0.37	1.34	62	59	56	41	33	3.4	1.8	628	106
30	2.9	13	3.12	0.50	1.79	81	77	74	54	45	3.8	2.1	942	159
40	3.4	16	2.88	0.61	2.20	98	94	90	66	55	4.1	2.4	1,256	212
50	3.8	19	2.70	0.72	2.58	114	109	104	77	64	4.3	2.7	1,570	265
60	4.2	21	2.57	0.82	2.94	129	123	118	87	73	4.6	3.0	1,884	318

70	4.6	24	1.91	1.72	2.46	0.91	3.29	143	137	131	96	82	4.9	3.2	2,198	371
80	4.9	27	1.91	1.89	2.37	1.00	3.62	157	150	143	105	90	5.1	3.4	2,512	424
90	5.2	29	1.91	2.06	2.29	1.09	3.94	170	162	155	114	98	5.3	3.7	2,826	477

Mature does (Dairy) Early gestation (Twin kids; BW = 2.1 to 4.8 kg)

20	2.1	16	2.39	0.61	3.03	0.40	1.45	67	64	61	45	36	4.9	2.3	628	106
30	2.6	21	1.91	1.00	3.35	0.53	1.92	94	90	86	63	48	5.4	2.8	942	159
40	3	26	1.91	1.23	3.07	0.65	2.35	113	108	103	76	59	5.7	3.1	1,256	212
50	3.4	31	1.91	1.44	2.88	0.76	2.75	131	125	120	88	69	6.0	3.4	1,570	265
60	3.8	36	1.91	1.64	2.73	0.87	3.14	148	142	135	100	78	6.3	3.7	1,884	318
70	4.1	40	1.91	1.83	2.61	0.97	3.49	164	156	150	110	87	6.6	3.9	2,198	371
80	4.5	44	1.91	2.02	2.52	1.07	3.86	180	172	165	121	96	6.8	4.2	2,512	424
90	4.8	49	1.91	2.19	2.44	1.16	4.19	195	186	178	131	105	7.0	4.4	2,826	477

Mature does (Dairy) Early gestation (Three or more kids; BW = 1.8 to 4.1 kg)

30	2.2	28	1.91	1.04	3.48	0.55	1.99	101	97	93	68	50	6.8	3.4	942	159
40	2.6	34	1.91	1.28	3.20	0.68	2.44	123	117	112	82	61	7.1	3.7	1,256	212
50	2.9	41	1.91	1.49	2.98	0.79	2.85	141	135	129	95	71	7.4	4.0	1,570	265
60	3.2	47	1.91	1.70	2.83	0.90	3.24	159	152	145	107	81	7.7	4.3	1,884	318
70	3.5	52	1.91	1.89	2.70	1.00	3.62	176	168	161	118	90	8.0	4.5	2,198	371
80	3.8	58	1.91	2.08	2.60	1.10	3.98	193	184	176	130	99	8.3	4.8	2,512	424
90	4.1	63	1.91	2.27	2.52	1.20	4.34	209	200	191	141	108	8.5	5.1	2,826	477

Mature does (Dairy) Late gestation (Single kid; BW = 2.3 to 5.2 kg)

20	2.3	38	2.87	0.60	2.99	0.48	1.72	82	78	75	55	43	3.3	1.7	910	112
30	2.9	51	2.39	0.95	3.15	0.63	2.26	112	107	102	75	56	3.8	2.2	1,365	168
40	3.4	63	2.39	1.15	2.88	0.76	2.75	134	128	122	90	69	4.1	2.4	1,820	224
50	3.8	75	1.91	1.67	3.34	0.89	3.19	166	159	152	112	80	4.8	3.1	2,275	280
60	4.2	86	1.91	1.89	3.15	1.00	3.62	187	178	170	125	90	5.1	3.4	2,730	336
70	4.6	97	1.91	2.11	3.01	1.12	4.03	206	197	188	139	101	5.4	3.7	3,185	392
80	4.9	107	1.91	2.31	2.88	1.22	4.41	224	214	204	150	110	5.7	4.0	3,640	448
90	5.2	117	1.91	2.50	2.78	1.32	4.78	241	230	220	162	119	5.9	4.3	4,095	504

Mature does (Dairy) Late gestation (Twin kids; BW = 2.6 to 4.8 kg)

20	2.1	66	2.87	0.68	3.41	0.54	1.96	105	100	96	70	49	5.0	2.4	910	112
30	2.6	85	2.87	0.89	2.96	0.71	2.55	133	127	121	89	64	5.2	2.7	1,365	168
40	3	106	2.39	1.28	3.21	0.85	3.07	165	157	150	111	77	5.8	3.2	1,820	224
50	3.4	125	2.39	1.49	2.98	0.99	3.57	189	181	173	127	89	6.1	3.5	2,275	280
60	3.8	143	2.39	1.69	2.82	1.12	4.05	213	203	195	143	101	6.4	3.7	2,730	336
70	4.1	161	2.39	1.87	2.68	1.24	4.48	233	222	213	157	112	6.6	4.0	3,185	392
80	4.5	178	2.39	2.06	2.58	1.37	4.93	256	245	234	172	123	6.9	4.3	3,640	448
90	4.8	194	1.91	2.79	3.10	1.48	5.34	298	284	272	200	133	7.9	5.2	4,095	504

Mature does (Dairy) Late gestation (Three or more kids; BW = 2.6 to 4.1 kg)

30	1.8	79	2.87	0.94	3.14	0.75	2.70	147	141	135	99	67	6.7	3.3	1,365	168
40	2.2	109	2.87	1.14	2.86	0.91	3.28	176	168	161	118	82	7.0	3.5	1,820	224
50	2.6	137	2.87	1.32	2.63	1.05	3.78	200	191	182	134	94	7.2	3.8	2,275	280
60	2.9	163	2.39	1.78	2.97	1.18	4.26	235	224	214	158	106	7.8	4.4	2,730	336
70	3.2	186	2.39	1.98	2.83	1.31	4.73	259	247	236	174	118	8.1	4.7	3,185	392
80	3.5	209	2.39	2.17	2.72	1.44	5.19	282	269	258	190	130	8.4	4.9	3,640	448
90	3.8	231	2.39	2.36	2.62	1.56	5.64	305	292	279	205	141	8.6	5.2	4,095	504

TABLE 15-4 continued

Class/Age/Other	Body Weight ^a kg	Birth Weight or Milk Yield ^b kg	Body Weight Gain ^c g/d	Energy Concentration in Diet ^d kcal/kg	Daily Dry Matter Intake ^e kg	% BW	Energy Requirements ^f		Protein Requirements ^g				Mineral Requirements ^h		Vitamin Requirements ⁱ		
							TDN kg/d	ME Mcal/d	CP @20% UIP g/d	CP @40% UIP g/d	CP @60% UIP g/d	MP g/d	DIP g/d	Ca g/d	P g/d	A RE/d	E IU/d
Mature does (Nondairy) Early gestation (Single kid; BW = 2.3 to 5.2 kg)																	
20	2.3	9	1.91	0.61	3.04	0.32	1.16	58	55	53	39	29	3.3	1.7	628	106	
30	2.9	13	1.91	0.81	2.70	0.43	1.55	76	73	69	51	39	3.6	2.0	942	159	
40	3.4	16	1.91	0.99	2.49	0.53	1.90	92	88	84	62	47	3.9	2.2	1,256	212	
50	3.8	19	1.91	1.16	2.33	0.62	2.23	107	102	97	72	56	4.1	2.4	1,570	265	
60	4.2	21	1.91	1.33	2.21	0.70	2.54	121	115	110	81	63	4.3	2.7	1,884	318	
70	4.6	24	1.91	1.48	2.12	0.79	2.84	134	128	122	90	71	4.5	2.9	2,198	371	
80	4.9	27	1.91	1.63	2.04	0.87	3.12	146	140	134	98	78	4.7	3.1	2,512	424	
90	5.2	29	1.91	1.77	1.97	0.94	3.39	158	151	144	106	85	4.9	3.3	2,826	477	
Mature does (Nondairy) Early gestation (Twin kids; BW = 2.1 to 4.8 kg)																	
20	2.1	16	1.91	0.66	3.32	0.35	1.27	69	66	63	46	32	4.9	2.4	628	106	
30	2.6	21	1.91	0.88	2.93	0.47	1.68	89	85	81	60	42	5.2	2.7	942	159	
40	3	26	1.91	1.07	2.68	0.57	2.05	107	102	97	72	51	5.5	2.9	1,256	212	
50	3.4	31	1.91	1.25	2.51	0.66	2.40	124	118	113	83	60	5.7	3.2	1,570	265	
60	3.8	36	1.91	1.43	2.38	0.76	2.73	140	134	128	94	68	6.0	3.4	1,884	318	
70	4.1	40	1.91	1.59	2.27	0.84	3.04	154	147	141	104	76	6.2	3.6	2,198	371	
80	4.5	44	1.91	1.75	2.19	0.93	3.35	170	162	155	114	84	6.4	3.8	2,512	424	
90	4.8	49	1.91	1.91	2.12	1.01	3.65	184	175	168	123	91	6.7	4.0	2,826	477	
Mature does (Nondairy) Early gestation (Three or more kids; BW = 1.8 to 4.1 kg)																	
30	2.2	28	1.91	0.92	3.06	0.49	1.75	96	92	88	65	44	6.6	3.2	942	159	
40	2.6	34	1.91	1.12	2.80	0.59	2.14	116	111	106	78	54	6.9	3.5	1,256	212	
50	2.9	41	1.91	1.31	2.61	0.69	2.50	134	128	122	90	62	7.2	3.8	1,570	265	
60	3.2	47	1.91	1.48	2.47	0.79	2.84	150	143	137	101	71	7.4	4.0	1,884	318	
70	3.5	52	1.91	1.65	2.36	0.88	3.16	167	159	152	112	79	7.7	4.2	2,198	371	
80	3.8	58	1.91	1.82	2.28	0.97	3.48	182	174	167	123	87	7.9	4.4	2,512	424	
90	4.1	63	1.91	1.98	2.20	1.05	3.79	198	189	181	133	95	8.1	4.7	2,826	477	
Mature does (Nondairy) Late gestation (Single kid; BW = 2.3 to 5.2 kg)																	
20	2.3	38	2.39	0.64	3.22	0.43	1.54	84	80	76	56	38	3.4	1.7	910	112	
30	2.9	51	2.39	0.85	2.82	0.56	2.02	108	103	98	72	50	3.7	2.0	1,365	168	
40	3.4	63	2.39	1.03	2.56	0.68	2.45	129	123	118	87	61	3.9	2.3	1,820	224	
50	3.8	75	1.91	1.49	2.97	0.79	2.84	159	152	145	107	71	4.5	2.9	2,275	280	
60	4.2	86	1.91	1.68	2.80	0.89	3.21	178	170	163	120	80	4.8	3.1	2,730	336	
70	4.6	97	1.91	1.87	2.67	0.99	3.58	197	188	180	132	89	5.1	3.4	3,185	392	
80	4.9	107	1.91	2.04	2.55	1.08	3.91	213	204	195	143	97	5.3	3.6	3,640	448	
90	5.2	117	1.91	2.21	2.46	1.17	4.23	229	219	209	154	105	5.5	3.9	4,095	504	
Mature does (Nondairy) Late gestation (Twin kids; BW = 2.1 to 4.8 kg)																	
20	2.1	66	2.87	0.62	3.10	0.49	1.78	102	98	93	69	44	4.9	2.3	910	112	
30	2.6	85	2.87	0.80	2.68	0.64	2.31	129	123	118	87	58	5.1	2.5	1,365	168	
40	3	106	2.39	1.16	2.90	0.77	2.77	160	153	146	107	69	5.6	3.0	1,820	224	
50	3.4	125	2.39	1.34	2.69	0.89	3.21	183	175	167	123	80	5.9	3.3	2,275	280	
60	3.8	143	2.39	1.52	2.54	1.01	3.64	206	197	188	139	91	6.1	3.5	2,730	336	
70	4.1	161	2.39	1.68	2.40	1.12	4.02	226	215	206	152	100	6.3	3.7	3,185	392	

80	4.5	178	1.91	2.32	2.90	1.23	4.43	266	254	243	179	111	7.2	4.6	3,640	448
90	4.8	194	1.91	2.51	2.79	1.33	4.79	286	273	261	192	120	7.5	4.9	4,095	504
Mature does (Nondairy) Late gestation (Three or more kids; BW = 1.8 to 4.1 kg)																
30	2.2	109	2.87	0.86	2.86	0.68	2.46	144	138	132	97	61	6.6	3.1	1,365	168
40	2.6	137	2.87	1.04	2.60	0.83	2.98	172	164	157	116	74	6.8	3.4	1,820	224
50	2.9	163	2.87	1.19	2.39	0.95	3.42	195	186	178	131	85	7.0	3.6	2,275	280
60	3.2	186	2.39	1.61	2.69	1.07	3.86	228	218	208	153	96	7.6	4.2	2,730	336
70	3.5	209	2.39	1.79	2.56	1.19	4.28	251	240	229	169	107	7.9	4.4	3,185	392
80	3.8	231	2.39	1.96	2.45	1.30	4.69	274	261	250	184	117	8.1	4.6	3,640	448
90	4.1	253	2.39	2.13	2.37	1.41	5.09	296	283	271	199	127	8.3	4.9	4,095	504
Mature does (Dairy) Early lactation (Single kid; milk yield = 0.88 to 1.61 kg/d)																
30	0.88	-19	1.91	1.21	4.04	0.64	2.32	138	132	126	93	58	5.3	3.3	1,605	168
40	1.03	-21	1.91	1.48	3.71	0.79	2.84	166	159	152	112	71	5.7	3.7	2,140	224
50	1.16	-23	1.91	1.73	3.47	0.92	3.31	191	182	175	128	83	6.0	4.0	2,675	280
60	1.29	-24	1.91	1.98	3.30	1.05	3.79	216	207	198	145	95	6.4	4.3	3,210	336
70	1.40	-25	1.91	2.21	3.16	1.17	4.23	239	228	218	161	106	6.7	4.7	3,745	392
80	1.51	-26	1.91	2.43	3.04	1.29	4.65	261	249	238	175	116	7.0	5.0	4,280	448
90	1.61	-27	1.91	2.65	2.94	1.40	5.06	282	269	257	189	126	7.3	5.3	4,815	504
Mature does (Dairy) Early lactation (Twin kids; milk yield = 2.06 to 3.22 g/d)																
40	2.06	-42	1.91	1.97	4.93	1.05	3.77	265	253	242	178	94	9.5	5.9	2,140	224
50	2.33	-45	1.91	2.30	4.61	1.22	4.41	305	292	279	205	110	9.9	6.3	2,675	280
60	2.57	-48	1.91	2.61	4.35	1.38	4.98	342	326	312	230	124	10.3	6.7	3,210	336
70	2.80	-50	1.91	2.91	4.15	1.54	5.56	377	360	344	253	139	10.8	7.1	3,745	392
80	3.01	-52	1.91	3.18	3.98	1.69	6.09	409	391	374	275	152	11.1	7.5	4,280	448
90	3.22	-54	1.91	3.46	3.84	1.83	6.61	442	422	403	297	165	11.5	7.9	4,815	504
Mature does (Dairy) Early lactation (Three or more kids; milk yield = 3.49 to 4.82 kg/d)																
50	3.49	-68	2.39	2.29	4.57	1.52	5.47	395	377	361	266	136	13.0	7.8	2,675	280
60	3.86	-72	2.39	2.59	4.32	1.72	6.19	442	422	404	297	155	13.4	8.2	3,210	336
70	4.20	-75	2.39	2.88	4.11	1.91	6.88	486	464	444	327	172	13.8	8.6	3,745	392
80	4.52	-78	1.91	3.94	4.93	2.09	7.54	559	533	510	375	188	15.3	10.1	4,280	448
90	4.82	-81	1.91	4.27	4.74	2.26	8.16	600	573	548	403	204	15.8	10.5	4,815	504
Mature does (Dairy) Early lactation (Parlor production; milk yield = 4.65 to 6.43 kg/d)																
50	4.65	-90	2.87	2.28	4.56	1.82	6.55	486	464	443	326	163	16.1	9.4	2,675	280
60	5.14	-95	2.87	2.58	4.30	2.05	7.40	542	518	495	364	185	16.5	9.8	3,210	336
70	5.60	-100	2.39	3.44	4.91	2.28	8.21	618	590	564	415	205	17.7	10.9	3,745	392
80	6.03	-104	2.39	3.76	4.70	2.49	8.99	671	640	612	451	224	18.2	11.4	4,280	448
90	6.43	-108	2.39	4.06	4.52	2.69	9.71	720	687	657	484	242	18.6	11.8	4,815	504
Mature does (Dairy) Early lactation (Parlor production; milk yield = 5.82 to 8.04 kg/d)																
50	5.82	-113	2.87	2.66	5.31	2.11	7.62	592	565	540	398	190	19.7	11.4	2,675	280
60	6.43	-119	2.87	3.00	5.00	2.39	8.61	660	630	603	444	215	20.2	11.9	3,210	336
70	7.00	-125	2.87	3.33	4.75	2.64	9.54	724	691	661	487	238	20.7	12.3	3,745	392
80	7.53	-130	2.87	3.63	4.54	2.89	10.42	784	748	716	527	260	21.1	12.7	4,280	448
90	8.04	-135	2.87	3.93	4.37	3.13	11.27	842	804	769	566	281	21.5	13.1	4,815	504
Mature does (Dairy) Early lactation (Parlor production; milk yield = 6.98 to 9.65 kg/d)																
50	6.98	-135	2.87	3.03	6.07	2.41	8.70	697	666	637	469	217	23.4	13.5	2,675	280
60	7.72	-143	2.87	3.42	5.71	2.72	9.82	778	743	710	523	245	23.9	14.0	3,210	336

TABLE 15-4 continued

Class/Age/Other	Body Weight ^e kg	Birth Weight or Milk Yield ^b kg	Body Weight Gain ^c g/d	Energy Concentration in Diet ^d kcal/kg	Daily Dry Matter Intake ^e kg	% BW	Energy Requirements ^f		Protein Requirements ^g				Mineral Requirements ^h		Vitamin Requirements ⁱ		
							TDN kg/d	ME Mcal/d	CP @20% UIP g/d	CP @40% UIP g/d	CP @60% UIP g/d	MP g/d	DIP g/d	Ca g/d	P g/d	A RE/d	E IU/d
70	8.40	-150	2.87	3.79	5.41	3.01	10.87	853	814	778	573	271	24.4	14.5	3,745	392	
80	9.04	-156	2.87	4.14	5.17	3.29	11.87	923	881	843	621	296	24.9	15.0	4,280	448	
90	9.65	-162	2.87	4.47	4.97	3.56	12.83	991	946	905	666	320	25.4	15.4	4,815	504	
Mature does (Dairy) Mid-lactation (Single kid; milk yield = 0.63 to 1.15 kg/d)																	
30	0.63	0	1.91	1.21	4.03	0.64	2.32	125	119	114	84	58	5.3	3.3	1,605	168	
40	0.74	0	1.91	1.48	3.70	0.78	2.83	150	143	137	101	71	5.7	3.7	2,140	224	
50	0.83	0	1.91	1.72	3.44	0.91	3.29	172	164	157	116	82	6.0	4.0	2,675	280	
60	0.92	0	1.91	1.95	3.25	1.04	3.73	194	185	177	130	93	6.3	4.3	3,210	336	
70	1.00	0	1.91	2.17	3.10	1.15	4.15	213	204	195	143	104	6.6	4.6	3,745	392	
80	1.08	0	1.91	2.38	2.98	1.26	4.56	233	222	213	157	114	6.9	4.9	4,280	448	
90	1.15	0	1.91	2.58	2.87	1.37	4.94	251	240	229	169	123	7.2	5.2	4,815	504	
Mature does (Dairy) Mid-lactation (Twin kids; milk yield = 1.47 to 2.30 kg/d)																	
40	1.47	0	1.91	1.96	4.89	1.04	3.74	232	221	212	156	93	9.4	5.9	2,140	224	
50	1.66	0	1.91	2.26	4.53	1.20	4.33	265	253	242	178	108	9.9	6.3	2,675	280	
60	1.84	0	1.91	2.55	4.26	1.35	4.88	297	283	271	199	122	10.3	6.7	3,210	336	
70	2.00	0	1.91	2.82	4.03	1.50	5.40	326	311	297	219	135	10.6	7.0	3,745	392	
80	2.15	0	1.91	3.08	3.85	1.63	5.89	353	337	322	237	147	11.0	7.4	4,280	448	
90	2.30	0	1.91	3.33	3.71	1.77	6.38	380	363	347	256	159	11.3	7.7	4,815	504	
Mature does (Dairy) Mid-lactation (Three or more kids; milk yield = 2.49 to 3.44 kg/d)																	
50	2.49	0	1.91	2.81	5.61	1.49	5.36	358	342	327	241	134	13.7	8.5	2,675	280	
60	2.76	0	1.91	3.15	5.25	1.67	6.03	400	382	365	269	151	14.2	9.0	3,210	336	
70	3.00	0	1.91	3.48	4.97	1.84	6.65	438	418	400	294	166	14.7	9.4	3,745	392	
80	3.23	0	1.91	3.79	4.73	2.01	7.24	474	453	433	319	181	15.1	9.9	4,280	448	
90	3.44	0	1.91	4.08	4.53	2.16	7.80	508	485	464	342	195	15.5	10.3	4,815	504	
Mature does (Dairy) Mid-lactation (Parlor production; milk yield = 3.32 to 4.59 kg/d)																	
50	3.32	0	2.39	2.68	5.36	1.78	6.40	425	406	388	286	160	16.7	9.9	2,675	280	
60	3.67	0	2.39	3.00	5.00	1.99	7.17	472	451	431	318	179	17.1	10.3	3,210	336	
70	4.00	0	1.91	4.13	5.90	2.19	7.90	550	525	502	370	197	18.7	11.9	3,745	392	
80	4.3	0	1.91	4.49	5.61	2.38	8.58	595	568	543	400	214	19.2	12.4	4,280	448	
90	4.59	0	1.91	4.83	5.37	2.56	9.24	637	608	582	428	231	19.6	12.8	4,815	504	
Mature does (Dairy) Mid-lactation (Parlor production; milk yield = 4.16 to 5.74 kg/d)																	
50	4.16	0	2.87	2.60	5.20	2.07	7.45	494	472	451	332	186	19.7	11.3	2,675	280	
60	4.59	0	2.39	3.48	5.80	2.31	8.32	571	545	521	384	208	20.9	12.5	3,210	336	
70	5.00	0	2.39	3.83	5.47	2.54	9.15	625	596	570	420	228	21.4	13.0	3,745	392	
80	5.38	0	2.39	4.15	5.19	2.75	9.93	675	644	616	453	248	21.8	13.4	4,280	448	
90	5.74	0	2.39	4.47	4.96	2.96	10.67	722	689	659	485	266	22.2	13.9	4,815	504	
Mature does (Dairy) Mid-lactation (Parlor production; milk yield = 4.99 to 6.89 kg/d)																	
50	4.99	0	2.87	2.96	5.92	2.35	8.49	580	554	530	390	212	23.3	13.4	2,675	280	
60	5.51	0	2.87	3.30	5.50	2.63	9.47	643	614	587	432	236	23.7	13.8	3,210	336	
70	6.00	0	2.87	3.63	5.18	2.88	10.40	703	671	642	472	260	24.2	14.3	3,745	392	

80	6.46	0	2.39	4.72	5.90	3.13	11.28	790	754	721	531	281	25.7	15.7	4,280	448
90	6.89	0	2.39	5.07	5.63	3.36	12.11	845	807	772	568	302	26.2	16.2	4,815	504
Mature does (Dairy) Late lactation (Single kid; milk yield = 0.38 to 0.69 kg/d)																
30	0.38	13	1.91	1.10	3.68	0.59	2.11	103	99	94	69	53	5.1	3.2	1,605	168
40	0.44	15	1.91	1.34	3.36	0.71	2.57	124	118	113	83	64	5.5	3.5	2,140	224
50	0.50	17	1.91	1.57	3.15	0.83	3.01	144	137	131	97	75	5.8	3.8	2,675	280
60	0.55	18	1.91	1.78	2.97	0.94	3.41	161	154	147	108	85	6.1	4.1	3,210	336
70	0.60	20	1.91	1.99	2.84	1.05	3.80	179	171	163	120	95	6.4	4.4	3,745	392
80	0.65	22	1.91	2.19	2.74	1.16	4.18	196	187	179	132	104	6.6	4.6	4,280	448
90	0.69	23	1.91	2.37	2.64	1.26	4.54	211	202	193	142	113	6.9	4.9	4,815	504
Mature does (Dairy) Late lactation (Twin kids; milk yield = 0.88 to 1.38 kg/d)																
40	0.88	29	1.91	1.69	4.22	0.89	3.23	181	172	165	121	81	9.1	5.5	2,140	224
50	1.00	33	1.91	1.96	3.93	1.04	3.75	208	199	190	140	94	9.4	5.9	2,675	280
60	1.10	37	1.91	2.22	3.70	1.18	4.24	233	222	213	157	106	9.8	6.2	3,210	336
70	1.20	40	1.91	2.46	3.51	1.30	4.70	257	245	234	172	117	10.1	6.5	3,745	392
80	1.29	43	1.91	2.69	3.36	1.43	5.14	279	266	255	187	128	10.5	6.8	4,280	448
90	1.38	46	1.91	2.92	3.24	1.55	5.58	301	287	275	202	139	10.8	7.2	4,815	504
Mature does (Dairy) Late lactation (Three or more kids; milk yield = 1.50 to 2.07 kg/d)																
50	1.50	50	1.91	2.36	4.72	1.25	4.51	273	261	249	184	113	13.1	7.9	2,675	280
60	1.65	55	1.91	2.65	4.41	1.40	5.06	304	290	278	204	126	13.5	8.3	3,210	336
70	1.80	60	1.91	2.93	4.19	1.55	5.61	334	319	305	225	140	13.9	8.7	3,745	392
80	1.94	65	1.91	3.20	4.00	1.70	6.12	363	347	332	244	153	14.3	9.1	4,280	448
90	2.07	69	1.91	3.46	3.84	1.83	6.61	390	373	356	262	165	14.6	9.4	4,815	504
Mature does (Dairy) Late lactation (Parlor production; milk yield = 1.99 to 2.76 kg/d)																
50	1.99	66	1.91	2.74	5.48	1.45	5.24	336	321	307	226	131	16.7	10.0	2,675	280
60	2.20	73	1.91	3.08	5.13	1.63	5.89	375	358	343	252	147	17.2	10.4	3,210	336
70	2.40	80	1.91	3.40	4.86	1.80	6.51	412	393	376	277	162	17.7	10.9	3,745	392
80	2.58	86	1.91	3.70	4.63	1.96	7.08	446	426	407	300	177	18.1	11.3	4,280	448
90	2.76	92	1.91	4.00	4.45	2.12	7.65	480	458	438	322	191	18.5	11.7	4,815	504
Mature does (Dairy) Late lactation (Parlor production; milk yield = 2.49 to 3.44 kg/d)																
50	2.49	83	1.91	3.14	6.27	1.66	6.00	401	383	367	270	150	20.4	12.1	2,675	280
60	2.76	92	1.91	3.52	5.87	1.87	6.73	448	427	409	301	168	20.9	12.6	3,210	336
70	3.00	100	1.91	3.88	5.54	2.05	7.41	490	468	447	329	185	21.4	13.1	3,745	392
80	3.23	108	1.91	4.22	5.27	2.24	8.06	530	506	484	356	201	21.9	13.5	4,280	448
90	3.44	115	1.91	4.54	5.04	2.41	8.68	568	542	519	382	217	22.3	14.0	4,815	504
Mature does (Dairy) Late lactation (Parlor production; milk yield = 2.99 to 4.13 kg/d)																
50	2.99	100	2.39	2.82	5.65	1.87	6.75	438	418	400	295	168	23.1	13.2	2,675	280
60	3.31	110	1.91	3.95	6.59	2.10	7.56	519	495	474	349	189	24.6	14.7	3,210	336
70	3.60	120	1.91	4.35	6.21	2.30	8.31	568	542	518	381	207	25.2	15.2	3,745	392
80	3.87	129	1.91	4.72	5.90	2.50	9.02	613	585	560	412	225	25.7	15.7	4,280	448
90	4.13	138	1.91	5.08	5.64	2.69	9.71	657	627	600	442	242	26.2	16.2	4,815	504
Mature does (Nondairy) Early lactation (Single kid; milk yield = 0.55 to 1.25 kg/d)																
20	0.55	-15	1.91	0.73	3.63	0.39	1.39	86	82	79	58	35	4.6	2.7	1,070	112
30	0.68	-19	1.91	0.95	3.18	0.51	1.82	110	105	101	74	46	4.9	2.9	1,605	168
40	0.80	-22	1.91	1.17	2.92	0.62	2.24	133	127	122	90	56	5.2	3.2	2,140	224

TABLE 15-4 continued

Class/Age/Other	Body Weight ^e kg	Birth Weight or Milk Yield ^b kg	Body Weight Gain ^c g/d	Energy Concentration in Diet ^d kcal/kg	Daily Dry Matter Intake ^e kg	Energy Requirements ^f		Protein Requirements ^g				Mineral Requirements ^h		Vitamin Requirements ⁱ		
						TDN kg/d	ME Mcal/d	CP @20% UIP g/d	CP @40% UIP g/d	CP @60% UIP g/d	MP g/d	DIP g/d	Ca g/d	P g/d	A RE/d	E IU/d
Mature does (Nondairy) Early lactation (Twin kids; milk yield = 0.91 to 2.08 kg/d)																
20	0.91	-30	2.39	0.66	3.32	0.44	1.59	108	104	99	73	40	7.6	4.1	1,070	112
30	1.14	-38	1.91	1.09	3.62	0.58	2.08	147	141	135	99	52	8.2	4.7	1,605	168
40	1.33	-44	1.91	1.32	3.30	0.70	2.53	176	168	160	118	63	8.6	5.0	2,140	224
50	1.51	-50	1.91	1.54	3.08	0.82	2.94	202	193	185	136	73	8.9	5.3	2,675	280
60	1.67	-55	1.91	1.75	2.91	0.93	3.34	207	216	207	152	83	9.2	5.6	3,210	336
70	1.81	-60	1.91	1.93	2.76	1.02	3.69	248	237	227	167	92	9.4	5.8	3,745	392
80	1.95	-65	1.91	2.11	2.64	1.12	4.04	270	258	246	181	101	9.7	6.1	4,280	448
90	2.08	-69	1.91	2.29	2.55	1.22	4.39	291	277	265	195	109	9.9	6.3	4,815	504
Mature does (Nondairy) Early lactation (Three or more kids; milk yield = 1.18 to 2.71 kg/d)																
30	1.48	-57	2.39	0.91	3.04	0.61	2.18	162	154	148	109	54	11.1	6.0	1,605	168
40	1.73	-66	1.91	1.39	3.47	0.74	2.66	204	194	186	137	66	11.8	6.6	2,140	224
50	1.96	-75	1.91	1.61	3.23	0.86	3.08	233	223	213	157	77	12.1	6.9	2,675	280
60	2.17	-83	1.91	1.83	3.04	0.97	3.49	261	249	238	175	87	12.4	7.2	3,210	336
70	2.36	-90	1.91	2.03	2.90	1.07	3.88	287	274	262	193	97	12.7	7.5	3,745	392
80	2.54	-97	1.91	2.22	2.77	1.18	4.24	311	297	284	209	106	12.9	7.7	4,280	448
90	2.71	-104	1.91	2.40	2.66	1.27	4.58	334	319	305	225	114	13.2	8.0	4,815	504
Mature does (Nondairy) Mid lactation (Single kid; milk yield = 0.37 to 0.84 kg/d)																
20	0.37	0	1.91	0.74	3.71	0.39	1.42	78	74	71	52	35	4.6	2.7	1,070	112
30	0.37	0	1.91	0.92	3.06	0.49	1.76	90	86	83	61	44	4.9	2.9	1,605	168
40	0.54	0	1.91	1.19	2.98	0.63	2.28	121	116	111	81	57	5.3	3.3	2,140	224
50	0.61	0	1.91	1.39	2.78	0.74	2.66	140	134	128	94	66	5.5	3.5	2,675	280
60	0.67	0	1.91	1.58	2.63	0.84	3.02	157	150	143	106	75	5.8	3.8	3,210	336
70	0.73	0	1.91	1.76	2.51	0.93	3.36	174	166	159	117	84	6.0	4.0	3,745	392
80	0.78	0	1.91	1.92	2.40	1.02	3.68	189	180	172	127	92	6.3	4.3	4,280	448
90	0.84	0	1.91	2.09	2.33	1.11	4.00	205	196	187	138	100	6.5	4.5	4,815	504
Mature does (Nondairy) Mid lactation (Twin kids; milk yield = 0.61 to 1.40 kg/d)																
20	0.61	0	1.91	0.90	4.49	0.48	1.72	105	100	96	70	43	8.0	4.4	1,070	112
30	0.76	0	1.91	1.17	3.91	0.62	2.25	134	128	123	90	56	8.4	4.8	1,605	168
40	0.89	0	1.91	1.42	3.56	0.75	2.72	160	153	146	108	68	8.7	5.1	2,140	224
50	1.01	0	1.91	1.65	3.31	0.88	3.16	185	176	169	124	79	9.0	5.4	2,675	280
60	1.12	0	1.91	1.87	3.12	0.99	3.58	208	198	190	139	89	9.3	5.7	3,210	336
70	1.22	0	1.91	2.08	2.97	1.10	3.97	229	218	209	154	99	9.6	6.0	3,745	392
80	1.31	0	1.91	2.27	2.84	1.20	4.34	248	237	227	167	108	9.9	6.3	4,280	448
90	1.40	0	1.91	2.46	2.73	1.30	4.70	268	256	245	180	117	10.1	6.5	4,815	504

Mature does (Nondairy) Mid lactation (Three or more kids; milk yield = 0.79 to 1.81 kg/d)

30	0.99	0	1.91	1.32	4.41	0.70	2.53	160	153	146	108	63	11.7	6.5	1,605	168
40	1.16	0	1.91	1.60	4.00	0.85	3.06	191	182	174	128	76	12.1	6.9	2,140	224
50	1.31	0	1.91	1.85	3.70	0.98	3.54	219	209	200	147	88	12.4	7.2	2,675	280
60	1.45	0	1.91	2.09	3.48	1.11	3.99	245	233	223	164	100	12.7	7.6	3,210	336
70	1.58	0	1.91	2.31	3.30	1.23	4.42	269	257	246	181	110	13.0	7.9	3,745	392
80	1.70	0	1.91	2.52	3.16	1.34	4.83	292	279	267	196	120	13.3	8.2	4,280	448
90	1.81	0	1.91	2.73	3.03	1.45	5.21	314	300	287	211	130	13.6	8.4	4,815	504

Mature does (Nondairy) Late lactation (Single kid; milk yield = 0.18 to 0.41 kg/d)

20	0.18	12	1.91	0.67	3.33	0.35	1.27	63	60	57	42	32	4.5	2.6	1,070	112
30	0.23	15	1.91	0.89	2.96	0.47	1.70	82	79	75	55	42	4.8	2.9	1,605	168
40	0.26	18	1.91	1.08	2.71	0.57	2.07	99	95	90	67	52	5.1	3.1	2,140	224
50	0.30	20	1.91	1.27	2.54	0.67	2.43	116	110	105	78	61	5.4	3.4	2,675	280
60	0.33	22	1.91	1.44	2.40	0.76	2.76	130	124	119	88	69	5.6	3.6	3,210	336
70	0.36	24	1.91	1.61	2.30	0.85	3.08	145	138	132	97	77	5.8	3.8	3,745	392
80	0.39	26	1.91	1.77	2.21	0.94	3.39	159	151	145	107	85	6.1	4.1	4,280	448
90	0.41	28	1.91	1.92	2.14	1.02	3.68	171	163	156	115	92	6.3	4.3	4,815	504

Mature does (Nondairy) Late lactation (Twin kids; milk yield = 0.30 to 0.69 kg/d)

20	0.30	24	1.91	0.79	3.96	0.42	1.51	82	79	75	55	38	7.8	4.3	1,070	112
30	0.38	30	1.91	1.05	3.48	0.55	2.00	107	102	98	72	50	8.2	4.6	1,605	168
40	0.44	35	1.91	1.27	3.17	0.67	2.42	128	122	117	86	60	8.5	4.9	2,140	224
50	0.50	40	1.91	1.48	2.96	0.78	2.83	148	142	135	100	71	8.8	5.2	2,675	280
60	0.55	44	1.91	1.67	2.79	0.89	3.20	166	159	152	112	80	9.0	5.5	3,210	336
70	0.60	48	1.91	1.86	2.66	0.99	3.56	184	176	168	124	89	9.3	5.7	3,745	392
80	0.64	52	1.91	2.04	2.55	1.08	3.90	200	191	183	135	97	9.6	6.0	4,280	448
90	0.69	55	1.91	2.21	2.46	1.17	4.23	217	207	198	146	106	9.8	6.2	4,815	504

Mature does (Nondairy) Late lactation (Three or more kids; milk yield = 0.39 to 0.89 kg/d)

30	0.49	45	1.91	1.18	3.92	0.62	2.25	127	121	116	86	56	11.5	6.3	1,605	168
40	0.57	53	1.91	1.42	3.56	0.76	2.72	152	145	139	102	68	11.8	6.7	2,140	224
50	0.65	60	1.91	1.66	3.31	0.88	3.17	176	168	160	118	79	12.1	7.0	2,675	280
60	0.71	66	1.91	1.87	3.11	0.99	3.57	196	187	179	132	89	12.4	7.3	3,210	336
70	0.78	72	1.91	2.08	2.96	1.10	3.97	217	207	198	146	99	12.7	7.6	3,745	392
80	0.84	78	1.91	2.27	2.84	1.21	4.35	236	225	216	159	108	13.0	7.8	4,280	448
90	0.89	83	1.91	2.46	2.73	1.30	4.70	254	242	232	170	117	13.2	8.1	4,815	504

Mature bucks (Dairy)

Maintenance	50		1.91	1.36	2.71	0.72	2.59	86	82	78	58	65	2.4	2.0	1,570	265
	75		1.91	1.84	2.45	0.97	3.51	116	111	106	78	88	3.0	2.6	2,355	398
	100		1.91	2.28	2.28	1.21	4.36	144	137	131	97	109	3.7	3.2	3,140	530
	125		1.91	2.69	2.16	1.43	5.15	170	162	155	114	129	4.2	3.8	3,925	663
	150		1.91	3.09	2.06	1.64	5.91	195	186	178	131	147	4.8	4.3	4,710	795
Prebreeding	50		1.91	1.49	2.98	0.79	2.85	94	90	86	63	71	2.6	2.1	2,275	280
	75		1.91	2.02	2.69	1.07	3.86	128	122	117	86	96	3.3	2.9	3,413	420
	100		1.91	2.51	2.51	1.33	4.79	158	151	144	106	120	4.0	3.5	4,550	560
	125		1.91	2.96	2.37	1.57	5.67	187	178	171	126	141	4.6	4.1	5,688	700
	150		1.91	3.40	2.27	1.80	6.50	214	204	195	144	162	5.2	4.7	6,825	840

TABLE 15-4 continued

Class/Age/Other	Body Weight ^e kg	Birth Weight or Milk Yield ^b kg	Body Weight Gain ^c g/d	Energy Concentration in Diet ^d kcal/kg	Daily Dry Matter Intake ^e kg	% BW	Energy Requirements ^f		Protein Requirements ^g				Mineral Requirements ^h		Vitamin Requirements ⁱ		
							TDN kg/d	ME Mcal/d	CP @20% UIP g/d	CP @40% UIP g/d	CP @60% UIP g/d	MP g/d	DIP g/d	Ca g/d	P g/d	A RE/d	E IU/d
Mature bucks (Nondairy)																	
Maintenance	50			1.91	1.14	2.29	0.61	2.18	77	74	71	52	55	2.1	1.7	1,570	265
	75			1.91	1.55	2.06	0.82	2.96	105	100	96	70	74	2.7	2.2	2,355	398
	100			1.91	1.92	1.92	1.02	3.67	130	124	118	87	92	3.2	2.7	3,140	530
	125			1.91	2.27	1.82	1.20	4.34	153	146	140	103	108	3.7	3.2	3,925	663
	150			1.91	2.60	1.74	1.38	4.98	175	167	160	118	124	4.1	3.7	4,710	795
Prebreeding	50			1.91	1.26	2.51	0.67	2.40	85	81	78	57	60	2.2	1.8	2,275	280
	75			1.91	1.70	2.27	0.90	3.26	115	110	105	77	81	2.9	2.4	3,413	420
	100			1.91	2.11	2.11	1.12	4.04	143	136	130	96	101	3.4	3.0	4,550	560
	125			1.91	2.50	2.00	1.32	4.78	168	161	154	113	119	4.0	3.5	5,688	700
	150			1.91	2.86	1.91	1.52	5.48	193	184	176	130	137	4.5	4.0	6,825	840

^eBody weight used in estimating requirements is the determined or estimated weight in kilograms (kg) average for the period during which these requirements will be applied.

^fBirth weight (kg) of single and average of multiple kids or liquid milk yield (kg/d).

^gAverage change in body weight over a 24-hour period.

^hThree hypothetical diets with increasing energy concentrations (1.91, 2.34, and 2.87 kcal/kg) were used in the calculations of intake and nutrient requirements. For each line entry, a diet was selected to represent the level of energy concentration that approximates that needed by the animal to achieve adequate intake to satisfy its energy requirement.

ⁱThe daily dry matter intake, expressed as kg or as percentage of body weight, of a diet having the indicated energy concentration (previous column) that is required to meet energy requirements. These energy concentrations should be viewed only as examples. In some cases, diets having greater or lesser concentrations of energy would be more appropriate.

^jEnergy requirements expressed as total digestible nutrients (TDN) in kg/d and metabolizable energy (ME) as kcal/d.

^kProtein requirements expressed as crude protein (CP), metabolizable protein (MP), and degradable intake protein (DIP). The CP requirement differs with the proportion of undegradable intake protein (UIP) because of the required minimal DIP.

^lTwo macro minerals, calcium (Ca) and phosphorus (P), commonly considered in balancing diets are included. Often, the balance (ratio) of the two minerals also is of concern.

^mTwo fat-soluble vitamins, A and E, that often are deficient in animal diets are expressed as retinal equivalents (RE) and international units (IU) for vitamins A and E, respectively. Retinal equivalent (RE) = 1.0 µg of all-trans retinol, 5.0 µg of all-trans beta-carotene, and 7.6 µg of other carotenoids.

TABLE 15-6 Nutrient Requirements of Goats (Angora)

Class/Age/Other	Body Weight ^a kg	Birth Weight or Milk Yield ^b kg	Daily Gain ^c g/d	Molting Fiber Growth ^d g/d	Energy Concentration in Diet ^e kcal/kg	Daily Dry Matter Intake ^f		Energy Requirements ^g		Protein Requirements ^h				Mineral Requirements ⁱ		Vitamin Requirements ^j		
						kg	% BW	TDN kg/d	ME Mcal/d	CP @20% UIP g/d	CP @40% UIP g/d	CP @60% UIP g/d	MP g/d	DIP g/d	Ca g/d	P g/d	A RE/d	E IU/d
Growing Angora Kids																		
Female kids																		
10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
10	10	10	0	4	2.39	0.34	3.42	0.23	0.82	38	36	35	25	20	1.0	0.6	1,000	100
10	10	10	0	8	2.39	0.40	4.05	0.27	0.97	48	46	44	32	24	1.1	0.7	1,000	100
10	10	10	20	4	2.39	0.42	4.17	0.28	1.00	46	44	42	31	25	1.6	0.9	1,000	100
10	10	10	20	8	2.87	0.40	4.04	0.32	1.15	56	53	51	38	29	1.5	0.9	1,000	100
10	10	10	40	4	2.87	0.37	3.74	0.33	1.17	55	52	50	37	29	2.0	1.0	1,000	100
10	10	10	40	8	2.87	0.44	4.37	0.37	1.32	64	61	59	43	33	2.1	1.1	1,000	100
20	20	20	0	4	1.91	0.70	3.52	0.35	1.28	57	54	52	38	32	1.5	1.1	2,000	200
20	20	20	0	8	1.91	0.79	3.93	0.40	1.43	67	64	61	45	36	1.6	1.2	2,000	200
20	20	20	20	4	1.91	0.81	4.03	0.40	1.45	65	62	60	44	36	2.1	1.4	2,000	200
20	20	20	20	8	1.91	0.84	4.21	0.44	1.60	75	72	69	51	40	2.2	1.4	2,000	200
20	20	20	40	4	2.39	0.68	3.42	0.45	1.63	74	70	67	50	41	2.4	1.4	2,000	200
20	20	20	40	8	2.39	0.74	3.72	0.49	1.78	84	80	76	56	44	2.5	1.5	2,000	200
30	30	30	0	4	1.91	0.92	3.08	0.46	1.68	74	70	67	50	42	1.8	1.4	3,000	300
30	30	30	0	8	1.91	1.01	3.35	0.51	1.83	84	80	76	56	46	1.9	1.5	3,000	300
30	30	30	0	12	2.39	0.83	2.75	0.55	1.98	93	89	85	63	49	1.7	1.2	3,000	300
30	30	30	20	4	1.91	1.03	3.43	0.51	1.85	82	78	75	55	46	2.4	1.7	3,000	300
30	30	30	20	8	1.91	1.06	3.54	0.56	2.00	92	88	84	62	50	2.5	1.7	3,000	300
30	30	30	20	12	1.91	1.07	3.56	0.60	2.15	102	97	93	68	54	2.5	1.8	3,000	300
30	30	30	40	4	2.39	0.85	2.84	0.56	2.03	90	86	83	61	51	2.7	1.6	3,000	300
30	30	30	40	8	2.39	0.91	3.04	0.60	2.18	100	96	92	67	54	2.7	1.7	3,000	300
30	30	30	40	12	2.39	0.97	3.24	0.65	2.33	110	105	101	74	58	2.8	1.8	3,000	300
Male kids																		
10	10	10	0	4	2.39	0.38	3.85	0.26	0.92	38	36	35	25	23	1.0	0.6	1,000	100
10	10	10	0	8	2.87	0.36	3.56	0.30	1.07	48	46	44	32	27	1.0	0.6	1,000	100
10	10	10	20	4	2.87	0.36	3.62	0.30	1.10	46	44	42	31	27	1.5	0.8	1,000	100
10	10	10	20	8	2.87	0.44	4.37	0.35	1.25	56	53	51	38	31	1.6	0.9	1,000	100
10	10	10	40	4	2.87	0.41	4.07	0.35	1.28	55	52	50	37	32	2.1	1.0	1,000	100
10	10	10	40	8	2.87	0.47	4.70	0.40	1.43	64	61	59	43	36	2.1	1.1	1,000	100
20	20	20	0	4	1.91	0.80	3.99	0.40	1.45	57	54	52	38	36	1.6	1.2	2,000	200
20	20	20	0	8	2.39	0.67	3.33	0.44	1.60	67	64	61	45	40	1.4	1.0	2,000	200
20	20	20	20	4	2.39	0.68	3.39	0.45	1.62	65	62	60	44	41	1.9	1.2	2,000	200
20	20	20	20	8	2.39	0.74	3.69	0.49	1.77	75	72	69	51	44	2.0	1.3	2,000	200
20	20	20	40	4	2.39	0.76	3.78	0.50	1.80	74	70	67	50	45	2.5	1.5	2,000	200
20	20	20	40	8	2.39	0.82	4.08	0.54	1.95	84	80	76	56	49	2.6	1.6	2,000	200
30	30	30	0	4	2.39	0.80	2.66	0.53	1.91	74	70	67	50	48	1.6	1.2	3,000	300
30	30	30	0	8	2.39	0.86	2.86	0.57	2.06	84	80	76	56	51	1.7	1.3	3,000	300
30	30	30	0	12	2.39	0.92	3.07	0.61	2.21	93	89	85	63	55	1.8	1.4	3,000	300
30	30	30	20	4	2.39	0.87	2.90	0.58	2.08	82	78	75	52	52	2.2	1.5	3,000	300
30	30	30	20	8	2.39	0.93	3.10	0.62	2.23	92	88	84	62	56	2.3	1.6	3,000	300
30	30	30	20	12	2.39	0.99	3.29	0.66	2.38	102	97	93	68	59	2.4	1.6	3,000	300
30	30	30	40	4	2.39	0.95	3.16	0.63	2.26	90	86	83	61	56	2.8	1.8	3,000	300

30 30 8 2.39 1.01 3.36 0.67 2.41 100 96 92 67 60 2.9 1.9 3,000 300
 30 30 12 2.39 1.07 3.56 0.71 2.56 110 105 101 74 64 3.0 1.9 3,000 300

**Mature Angora Males
Maintenance only**

0 5 1.91 1.02 3.41 0.51 1.85 76 73 70 51 46 1.9 1.5 942 159
 0 10 1.91 1.12 3.75 0.57 2.04 88 84 81 59 51 2.1 1.6 942 159
 0 15 2.39 0.93 3.10 0.62 2.23 101 96 92 68 56 1.8 1.4 942 159
 0 5 1.91 1.24 3.11 0.63 2.26 92 87 84 62 56 2.2 1.8 1,256 212
 0 10 1.91 1.35 3.37 0.68 2.44 104 99 95 70 61 2.4 1.9 1,256 212
 0 15 1.91 1.45 3.62 0.73 2.63 116 111 106 78 66 2.5 2.1 1,256 212
 0 10 1.91 1.56 3.11 0.78 2.82 118 113 108 79 70 2.7 2.2 1,570 265
 0 15 1.91 1.66 3.31 0.83 3.01 131 125 119 88 75 2.8 2.4 1,570 265
 0 20 1.91 1.76 3.52 0.89 3.19 143 136 130 96 80 2.9 2.5 1,570 265
 0 10 1.91 1.75 2.92 0.88 3.18 132 126 121 89 79 2.9 2.5 1,884 318
 0 15 1.91 1.85 3.09 0.93 3.37 144 138 132 97 84 3.1 2.6 1,884 318
 0 20 1.91 1.96 3.26 0.99 3.55 157 149 143 105 89 3.2 2.8 1,884 318

Breeding

30 5 1.91 1.12 3.75 0.57 2.04 84 80 77 56 51 2.1 1.6 1,365 168
 30 10 2.39 0.94 3.13 0.62 2.25 97 93 89 65 56 1.8 1.4 1,365 168
 30 15 2.39 1.02 3.41 0.68 2.45 111 106 101 74 61 1.9 1.5 1,365 168
 40 5 1.91 1.37 3.42 0.69 2.48 101 96 92 68 62 2.4 2.0 1,820 224
 40 10 1.91 1.48 3.70 0.75 2.69 114 109 104 77 67 2.6 2.1 1,820 224
 40 15 1.91 1.59 3.98 0.80 2.89 128 122 117 86 72 2.7 2.3 1,820 224
 50 10 1.91 1.71 3.42 0.86 3.10 130 124 119 87 77 2.9 2.4 2,275 280
 50 15 1.91 1.82 3.64 0.92 3.31 144 137 131 97 83 3.0 2.6 2,275 280
 50 20 1.91 1.93 3.86 0.97 3.51 157 150 143 106 88 3.2 2.7 2,275 280
 60 10 1.91 1.93 3.21 0.97 3.50 145 139 133 98 87 3.2 2.7 2,730 336
 60 15 1.91 2.04 3.39 1.03 3.70 159 152 145 107 92 3.3 2.9 2,730 336
 60 20 1.91 2.15 3.58 1.08 3.91 172 164 157 116 98 3.5 3.0 2,730 336

**Mature Angora Females
Maintenance only**

30 5 1.91 0.90 3.01 0.45 1.64 76 73 70 51 41 1.8 1.3 942 159
 30 10 1.91 1.00 3.35 0.51 1.82 88 84 81 59 46 1.9 1.5 942 159
 30 15 1.91 1.11 3.69 0.56 2.01 101 96 92 68 50 2.0 1.6 942 159
 40 5 1.91 1.10 2.74 0.55 1.98 92 87 84 62 50 2.0 1.6 1,256 212
 40 10 1.91 1.20 2.99 0.60 2.17 104 99 95 70 54 2.2 1.7 1,256 212
 40 15 1.91 1.30 3.25 0.65 2.36 116 111 106 78 59 2.3 1.9 1,256 212
 50 10 1.91 1.38 2.76 0.69 2.50 118 113 108 79 62 2.4 2.0 1,570 265
 50 15 1.91 1.48 2.96 0.75 2.69 131 125 119 88 67 2.6 2.1 1,570 265
 50 20 1.91 1.58 3.16 0.80 2.87 143 136 130 96 72 2.7 2.3 1,570 265
 60 10 1.91 1.55 2.58 0.78 2.81 132 126 121 89 70 2.7 2.2 1,884 318
 60 15 1.91 1.65 2.75 0.83 3.00 144 138 132 97 75 2.8 2.4 1,884 318
 60 20 1.91 1.75 2.92 0.88 3.19 157 149 143 105 80 2.9 2.5 1,884 318

**Mature Angora Females
Breeding**

30 5 1.91 0.99 3.30 0.50 1.80 84 80 77 56 45 1.9 1.5 942 159
 30 10 1.91 1.10 3.68 0.56 2.01 97 93 89 65 50 2.0 1.6 942 159
 30 15 2.39 0.92 3.08 0.61 2.21 111 106 101 74 55 1.8 1.4 942 159

TABLE 15-6 continued

Class/Age/Other	Body Weight ^a kg	Birth Weight or Milk Yield ^b kg	Daily Gain ^c g/d	Mohair Fiber Growth ^d g/d	Energy Concentration in Diet ^e kcal/kg	Daily Dry Matter Intake ^f kg	Energy Requirements ^g		Protein Requirements ^h			Mineral Requirements ⁱ		Vitamin Requirements ^j				
							TDN kg/d	ME Mcal/d	CP @20% UIP g/d	CP @40% UIP g/d	CP @60% UIP g/d	MP g/d	DIP g/d	Ca g/d	P g/d	A RE/d	E IU/d	
40	40	40	40	5	1.91	1.20	3.01	0.61	2.18	101	96	92	68	54	2.2	1.8	1,256	212
40	40	40	40	10	1.91	1.31	3.29	0.66	2.39	114	109	104	77	60	2.3	1.9	1,256	212
40	40	40	40	15	1.91	1.43	3.57	0.72	2.60	128	122	117	86	65	2.5	2.1	1,256	212
50	50	50	50	10	1.91	1.51	3.03	0.76	2.75	130	124	119	87	69	2.6	2.2	1,570	265
50	50	50	50	15	1.91	1.63	3.25	0.82	2.96	144	137	131	97	74	2.8	2.3	1,570	265
50	50	50	50	20	1.91	1.74	3.47	0.88	3.16	157	150	143	106	79	2.9	2.5	1,570	265
60	60	60	60	10	1.91	1.70	2.84	0.86	3.09	145	139	133	98	77	2.4	2.4	1,884	318
60	60	60	60	15	1.91	1.81	3.02	0.91	3.30	159	152	145	107	82	3.0	2.6	1,884	318
60	60	60	60	20	1.91	1.93	3.21	0.97	3.50	172	164	157	116	87	3.2	2.7	1,884	318
Early gestation (Single kid; BW = 2.9 to 4.2 kg)																		
30	30	30	30	5	1.91	1.04	3.47	0.52	1.89	98	94	90	66	47	3.9	2.3	942	159
30	30	30	30	10	1.91	1.14	3.81	0.58	2.08	110	105	101	74	52	4.1	2.4	942	159
30	30	30	30	15	2.39	0.95	3.15	0.63	2.27	123	117	112	82	57	3.8	2.2	942	159
40	40	40	40	5	1.91	1.26	3.14	0.63	2.28	117	112	107	79	57	4.2	2.6	1,256	212
40	40	40	40	10	1.91	1.36	3.39	0.68	2.47	129	123	118	87	62	4.4	2.7	1,256	212
40	40	40	40	15	1.91	1.46	3.64	0.74	2.65	142	135	129	95	66	4.5	2.8	1,256	212
50	50	50	50	10	1.91	1.56	3.11	0.78	2.83	147	140	134	99	71	4.6	3.0	1,570	265
50	50	50	50	15	1.91	1.66	3.31	0.84	3.01	159	152	145	107	75	4.8	3.1	1,570	265
50	50	50	50	20	1.91	1.76	3.52	0.89	3.20	171	163	156	115	80	4.9	3.3	1,570	265
60	60	60	60	10	1.91	1.75	2.91	0.88	3.17	163	156	149	110	79	4.9	3.2	1,884	318
60	60	60	60	15	1.91	1.85	3.08	0.93	3.36	176	168	160	118	84	5.0	3.4	1,884	318
60	60	60	60	20	1.91	1.95	3.25	0.98	3.55	188	179	171	126	89	5.2	3.5	1,884	318
Early gestation (Twin kids; BW = 2.6 to 3.8 kg)																		
30	30	30	30	5	1.91	1.11	3.70	0.56	2.02	108	104	99	73	50	5.6	3.0	942	159
30	30	30	30	10	2.39	0.92	3.07	0.61	2.21	121	115	110	81	55	5.3	2.7	942	159
30	30	30	30	15	2.39	1.00	3.33	0.66	2.39	133	127	121	89	60	5.4	2.8	942	159
40	40	40	40	5	1.91	1.33	3.33	0.67	2.43	129	123	117	86	61	5.9	3.3	1,256	212
40	40	40	40	10	1.91	1.44	3.59	0.72	2.61	141	134	129	95	65	6.0	3.4	1,256	212
40	40	40	40	15	1.91	1.54	3.84	0.78	2.80	153	146	140	103	70	6.1	3.5	1,256	212
50	50	50	50	10	1.91	1.65	3.29	0.83	3.00	160	153	146	108	75	6.3	3.7	1,570	265
50	50	50	50	15	1.91	1.75	3.50	0.88	3.18	172	165	157	116	79	6.4	3.8	1,570	265
50	50	50	50	20	1.91	1.85	3.70	0.93	3.37	185	176	169	124	84	6.6	4.0	1,570	265
60	60	60	60	10	1.91	1.85	3.08	0.93	3.36	179	171	163	120	84	6.6	4.0	1,884	318
60	60	60	60	15	1.91	1.95	3.25	0.98	3.55	191	182	174	128	89	6.7	4.1	1,884	318
60	60	60	60	20	1.91	2.05	3.42	1.04	3.74	203	194	186	137	93	6.9	4.2	1,884	318
Late gestation (Single kid; BW = 2.9 to 4.2 kg)																		
30	30	30	30	5	2.39	0.99	3.29	0.65	2.36	128	123	117	86	59	3.8	2.2	1,365	168
30	30	30	30	10	2.39	1.06	3.55	0.71	2.55	141	134	128	95	64	4.0	2.3	1,365	168
30	30	30	30	15	2.39	1.14	3.81	0.76	2.74	153	146	140	103	68	4.1	2.4	1,365	168
40	40	40	40	5	1.91	1.55	3.88	0.78	2.83	152	146	139	102	71	4.6	3.0	1,820	224
40	40	40	40	10	2.39	1.26	3.15	0.84	3.02	165	157	150	111	75	4.2	2.6	1,820	224

40	3.4	63	15	2.39	1.34	3.34	0.89	3.20	177	169	162	119	80	4.3	2.7	1,820	224
50	3.8	75	10	1.91	1.89	3.77	0.95	3.44	186	178	170	125	86	5.1	3.4	2,275	280
50	3.8	75	15	1.91	1.99	3.97	1.01	3.63	198	189	181	133	91	5.2	3.6	2,275	280
50	3.8	75	20	2.39	1.59	3.18	1.06	3.82	211	201	192	142	95	4.7	3.0	2,275	280
60	4.2	86	10	1.91	2.11	3.52	1.07	3.85	207	197	189	139	96	5.4	3.7	2,730	336
60	4.2	86	15	1.91	2.21	3.68	1.12	4.03	219	209	200	147	101	5.5	3.9	2,730	336
60	4.2	86	20	1.91	2.31	3.85	1.17	4.22	231	221	211	155	105	5.7	4.0	2,730	336

Late gestation (Twin kids; BW = 2.6 to 3.8 kg)

30	2.6	85	5	2.39	1.11	3.68	0.73	2.65	152	145	138	102	66	5.5	3.0	1,365	168
30	2.6	85	10	2.39	1.18	3.94	0.79	2.84	164	156	150	110	71	5.7	3.1	1,365	168
30	2.6	85	15	2.87	1.01	3.38	0.84	3.02	176	168	161	118	75	5.4	2.8	1,365	168
40	3.0	106	5	2.39	1.31	3.28	0.87	3.15	178	170	163	120	79	5.8	3.2	1,820	224
40	3.0	106	10	2.39	1.39	3.48	0.92	3.34	191	182	174	128	83	5.9	3.3	1,820	224
40	3.0	106	15	2.39	1.47	3.67	0.98	3.52	203	194	185	136	88	6.1	3.5	1,820	224
50	3.4	125	10	2.39	1.59	3.18	1.06	3.81	216	206	197	145	95	6.2	3.6	2,275	280
50	3.4	125	15	2.39	1.67	3.34	1.11	4.00	229	218	209	154	100	6.3	3.7	2,275	280
50	3.4	125	20	2.39	1.75	3.49	1.16	4.19	241	230	220	162	105	6.4	3.8	2,275	280
60	3.8	143	10	1.91	2.34	3.90	1.19	4.28	241	230	220	162	107	7.3	4.6	2,730	336
60	3.8	143	15	2.39	1.86	3.10	1.24	4.46	254	242	232	170	111	6.6	4.0	2,730	336
60	3.8	143	20	2.39	1.94	3.23	1.29	4.65	266	254	243	179	116	6.7	4.1	2,730	336

Early lactation (Single kid; milk yield = 0.57 to 0.83 kg/d)

30	0.57	-19	5	2.39	0.94	3.14	0.62	2.25	117	112	107	79	56	3.4	2.2	1,605	168
30	0.57	-19	10	2.39	1.02	3.40	0.68	2.44	130	124	118	87	61	3.5	2.3	1,605	168
30	0.57	-19	15	2.39	1.10	3.66	0.73	2.62	142	135	130	95	65	3.6	2.4	1,605	168
40	0.66	-22	5	1.91	1.38	3.46	0.73	2.64	139	133	127	94	66	4.0	2.8	2,140	224
40	0.66	-22	10	2.39	1.19	2.96	0.79	2.83	151	145	138	102	71	3.7	2.5	2,140	224
40	0.66	-22	15	2.39	1.26	3.16	0.84	3.02	164	156	149	110	75	3.8	2.6	2,140	224
50	0.75	-25	10	1.91	1.67	3.34	0.89	3.19	172	165	157	116	80	4.4	3.2	2,675	280
50	0.75	-25	15	1.91	1.77	3.54	0.94	3.38	185	176	169	124	84	4.5	3.3	2,675	280
50	0.75	-25	20	2.39	1.49	2.99	0.99	3.57	197	188	180	132	89	4.1	2.9	2,675	280
60	0.83	-28	10	1.91	1.84	3.06	0.97	3.51	192	183	175	129	88	4.6	3.4	3,210	336
60	0.83	-28	15	1.91	1.93	3.22	1.03	3.70	204	195	186	137	92	4.7	3.5	3,210	336
60	0.83	-28	20	1.91	2.03	3.39	1.08	3.89	216	206	197	145	97	4.9	3.6	3,210	336

Early lactation (Twin kids; milk yield = 0.94 to 1.38 kg/d)

30	0.94	-38	5	2.87	0.90	3.00	0.72	2.58	141	135	129	95	64	4.9	2.9	1,605	168
30	0.94	-38	10	2.87	0.96	3.22	0.77	2.77	153	146	140	103	69	4.9	3.0	1,605	168
30	0.94	-38	15	2.87	1.03	3.43	0.82	2.95	166	158	151	111	74	5.0	3.1	1,605	168
40	1.11	-44	5	2.39	1.26	3.15	0.83	3.01	169	161	154	113	75	5.4	3.4	2,140	224
40	1.11	-44	10	2.39	1.34	3.34	0.89	3.20	181	173	165	122	80	5.5	3.5	2,140	224
40	1.11	-44	15	2.87	1.18	2.95	0.94	3.38	193	184	176	130	84	5.3	3.3	2,140	224
50	1.25	-50	10	2.39	1.48	2.96	0.98	3.53	205	196	187	138	88	5.7	3.7	2,675	280
50	1.25	-50	15	2.39	1.56	3.11	1.03	3.72	217	207	198	146	93	5.8	3.8	2,675	280
50	1.25	-50	20	2.39	1.64	3.27	1.08	3.91	229	219	209	154	98	5.9	3.9	2,675	280
60	1.38	-55	10	2.39	1.60	2.67	1.06	3.83	228	217	208	153	96	5.8	3.8	3,210	336
60	1.38	-55	15	2.39	1.68	2.80	1.11	4.02	240	229	219	161	100	5.9	3.9	3,210	336
60	1.38	-55	20	2.39	1.76	2.93	1.17	4.21	252	241	230	170	105	6.1	4.0	3,210	336

TABLE 15-6 continued

Class/Age/Other	Body Weight ^a kg	Birth Weight or Milk Yield ^b kg	Daily Gain ^c g/d	Molhair Fiber Growth ^d g/d	Energy Concentration in Diet ^e kcal/kg	Daily Dry Matter Intake ^f kg	% BW	Energy Requirements ^g		Protein Requirements ^h				Mineral Requirements ⁱ		Vitamin Requirements ^j		
								TDN	ME	CP @20%	CP @40%	CP @60%	MP	DIP	Ca	P	A	E
								kg/d	Mcal/d	UIP g/d	UIP g/d	UIP g/d	g/d	g/d	g/d	g/d	RE/d	IU/d
Late lactation (Single kid; milk yield = 0.28 to 0.41 kg/d)																		
30	0.28	15	5	1.91	1.13	3.77	0.60	2.17	107	102	97	72	54	3.6	2.4	1,605	168	
30	0.28	15	10	1.91	1.23	4.10	0.65	2.35	119	113	109	80	59	3.8	2.6	1,605	168	
30	0.28	15	15	2.39	1.06	3.54	0.70	2.54	131	125	120	88	63	3.5	2.3	1,605	168	
40	0.33	18	5	1.91	1.37	3.41	0.72	2.61	128	122	116	86	65	4.0	2.7	2,140	224	
40	0.33	18	10	1.91	1.46	3.66	0.78	2.80	140	133	128	94	70	4.1	2.9	2,140	224	
40	0.33	18	15	1.91	1.56	3.90	0.83	2.99	152	145	139	102	75	4.2	3.0	2,140	224	
50	0.38	20	10	1.91	1.68	3.36	0.89	3.21	159	152	146	107	80	4.4	3.2	2,675	280	
50	0.38	20	15	1.91	1.78	3.56	0.94	3.40	172	164	157	115	85	4.5	3.3	2,675	280	
50	0.38	20	20	1.91	1.88	3.76	1.00	3.59	184	176	168	124	90	4.7	3.4	2,675	280	
60	0.41	22	10	1.91	1.88	3.13	0.99	3.59	177	169	161	119	90	4.7	3.4	3,210	336	
60	0.41	22	15	1.91	1.97	3.29	1.05	3.77	189	180	172	127	94	4.8	3.6	3,210	336	
60	0.41	22	20	1.91	2.07	3.45	1.10	3.96	201	192	184	135	99	4.9	3.7	3,210	336	
Late lactation (Twin kids; milk yield = 0.47 to 0.69 kg/d)																		
30	0.47	30	5	2.39	1.07	3.58	0.71	2.57	129	123	118	87	64	5.1	3.1	1,605	168	
30	0.47	30	10	2.39	1.15	3.84	0.76	2.75	142	135	129	95	69	5.2	3.2	1,605	168	
30	0.47	30	15	2.39	1.23	4.10	0.82	2.94	154	147	140	103	73	5.3	3.3	1,605	168	
40	0.55	35	5	1.91	1.61	4.02	0.85	3.07	154	147	140	103	77	5.8	3.8	2,140	224	
40	0.55	35	10	1.91	1.71	4.28	0.90	3.26	166	158	152	112	81	6.0	4.0	2,140	224	
40	0.55	35	15	2.39	1.44	3.61	0.96	3.45	178	170	163	120	86	5.6	3.6	2,140	224	
50	0.63	40	10	1.91	1.96	3.92	1.04	3.75	189	181	173	127	93	6.3	4.3	2,675	280	
50	0.63	40	15	1.91	2.06	4.11	1.09	3.93	202	193	184	136	98	6.5	4.5	2,675	280	
50	0.63	40	20	1.91	2.16	4.31	1.14	4.12	214	204	195	144	103	6.6	4.6	2,675	280	
60	0.69	44	10	1.91	2.18	3.64	1.16	4.18	210	200	192	141	104	6.6	4.6	3,210	336	
60	0.69	44	15	1.91	2.28	3.80	1.21	4.37	222	212	203	149	109	6.8	4.7	3,210	336	
60	0.69	44	20	1.91	2.38	3.97	1.26	4.55	235	224	214	158	114	6.9	4.9	3,210	336	

^aBody weight used in estimating requirements is the determined or estimated weight in kilograms (kg) average for the period during which these requirements will be applied.

^bBirth weight (kg) of single and average of multiple lambs or liquid milk yield (kg/d).

^cAverage change in body weight over a 24-hour period.

^dWeight of molhair growth over a 24-hour period.

^eThree hypothetical diets with increasing energy concentrations (1.91, 2.34, and 2.87 kcal/kg) were used in the calculations of intake and nutrient requirements. For each line entry, a diet was selected to represent the level of energy concentration that approximates that needed by the animal to achieve adequate intake to satisfy its energy requirement.

^fThe daily dry matter intake, expressed as kg or as percentages of body weight, of a diet having the indicated energy concentration (previous column) that is required to meet energy requirements. These energy concentrations should be viewed only as examples. In some cases, diets having greater or lesser concentrations of energy would be more appropriate.

^gEnergy requirements expressed as total digestible nutrients (TDN) in kg/d and metabolizable energy (ME) as kcal/d.

^hProtein requirements expressed as crude protein (CP), metabolizable protein (MP), and degradable intake protein (DIP). The CP requirement differs with the proportion of undegradable intake protein (UIP) because of the required minimal DIP.

ⁱTwo macro minerals, calcium (Ca) and phosphorus (P), commonly considered in balancing diets are included. Often, the balance (ratio) of the two minerals also is of concern.

^jTwo fat-soluble vitamins, A and E, that often are deficient in animal diets are expressed as retinal equivalents (RE) and international units (IU) for vitamins A and E, respectively. Retinal equivalent (RE) = 1.0 µg of all-trans retinol, 5.0 µg of all-trans beta-carotene, and 7.6 µg of other carotenoids.