

# APPENDIX: Nutrient Requirements of Goats

Daily Feed Requirements												Dry Matter Intake per Animal per Day	
Body	Weight <sup>1</sup>	Daily Energy				Daily Protein		Daily Requirements				When 1 kg or 2.2 lb feed = 2.0 Mcal ME	When 1 kg or 2.2 lb feed = 2.4 Mcal ME
(lb)	(kg)	TDN <sup>2</sup> (g)	DE <sup>3</sup> (Mcal)	ME <sup>4</sup> (Mcal)	NE <sup>5</sup> (Mcal)	TP <sup>6</sup> (g)	DP <sup>7</sup> (g)	Ca (g)	P (g)	Vitamin A (1000 IU)	Vitamin D (IU)	% of kg BW	% of kg BW
Maintenance only (includes stable feeding conditions, minimal activity and early pregnancy)													
22	10	159	0.70	0.57	0.32	22	15	1	0.7	0.4	84	2.8	2.4
44	20	267	1.18	0.96	0.54	38	26	1	0.7	0.7	144	2.4	2.0
66	30	362	1.59	1.30	0.73	51	35	2	1.4	0.9	195	2.2	1.8
88	40	448	1.96	1.61	0.91	63	43	2	1.4	1.2	243	2.0	1.7
110	50	530	2.34	1.91	1.06	75	51	3	2.1	1.4	285	1.9	1.6
132	60	608	2.68	2.19	1.23	86	59	3	2.1	1.6	327	1.8	1.5
154	70	682	3.01	2.45	1.38	96	66	4	2.8	1.8	369	1.8	1.5
176	80	754	3.32	2.71	1.53	106	73	4	2.8	2.0	408	1.7	1.4
198	90	824	3.63	2.96	1.67	116	80	4	2.8	2.2	444	1.6	1.4
220	100	891	3.93	3.21	1.81	126	86	5	3.5	2.4	480	1.6	1.3
Maintenance plus low activity (= 25% increment, intensive management, tropical range and early pregnancy)													
22	10	199	0.87	0.71	0.40	27	19	1	0.7	0.5	108	3.6	3.0
44	20	334	1.47	1.20	0.68	46	32	2	1.4	0.9	180	3.0	2.5
66	30	452	1.99	1.62	0.92	62	43	2	1.4	1.2	243	2.7	2.2
88	40	560	2.47	2.02	1.14	77	54	3	2.1	1.5	303	2.5	2.1
110	50	662	2.92	2.38	1.34	91	63	4	2.8	1.8	357	2.4	2.0
132	60	760	3.35	2.73	1.54	105	73	4	2.8	2.0	408	2.3	1.8
154	70	852	3.76	3.07	1.73	118	82	5	3.5	2.3	462	2.2	1.8
176	80	942	4.16	3.39	1.91	130	90	5	3.5	2.6	510	2.1	1.8
198	90	1030	4.54	3.70	2.09	142	99	6	4.2	2.8	555	2.1	1.7
220	100	1114	4.91	4.01	2.26	153	107	6	4.2	3.0	600	2.0	1.7
Maintenance plus medium activity (= 50% increment, semiarid rangeland, slightly hilly pastures and early pregnancy)													
22	10	239	1.05	0.86	0.48	33	23	1	0.7	0.6	129	4.3	3.6
44	20	400	1.77	1.44	0.81	33	38	2	1.4	1.1	216	3.6	3.0
66	30	543	2.38	1.96	1.10	74	52	3	2.1	1.5	294	3.3	2.7
88	40	672	2.97	2.42	1.36	93	64	4	2.8	1.8	363	3.0	2.3
110	50	795	3.51	2.86	1.62	110	76	4	2.8	2.1	429	2.9	2.4
132	60	912	4.02	3.28	1.84	126	87	5	3.5	2.5	492	2.7	2.3

154	70	1023	4.52	3.68	2.07	141	98	6	4.2	2.8	552	2.6	2.2
176	80	1131	4.98	4.06	2.30	156	108	6	4.2	3.0	609	2.5	2.1
198	90	1236	5.44	4.44	2.50	170	119	8	4.0	3.3	666	2.5	2.0
220	100	1336	5.90	4.82	2.72	184	128	7	4.9	3.6	723	2.4	2.0
Maintenance plus high activity (= 75% increment, arid rangeland, sparse vegetation, mountainous pastures and early pregnancy)													
22	10	278	1.22	1.00	0.56	38	226	2	1.4	0.8	150	5.0	4.2
44	20	467	2.06	1.68	0.94	64	45	2	1.4	1.3	252	4.2	3.3
66	30	634	2.78	2.28	1.28	87	60	3	2.1	1.7	342	3.8	3.2
88	40	784	3.46	2.82	1.59	108	75	4	2.8	2.1	423	3.5	3.0
110	50	928	4.10	3.34	1.89	128	89	5	3.5	2.5	501	3.3	2.7
132	60	1064	4.69	3.83	2.15	146	102	6	4.2	2.9	576	3.2	2.7
154	70	1194	5.27	4.29	2.42	165	114	6	4.2	3.2	642	3.0	2.6
176	80	1320	5.81	4.74	2.68	182	126	7	4.9	3.6	711	3.0	2.5
198	90	1442	5.35	5.18	2.92	198	135	8	5.6	3.9	777	2.9	2.4
220	100	1559	6.88	5.62	3.17	213	150	8	5.6	4.2	843	2.8	2.3
Additional requirements for late pregnancy (for all goat sizes)													
		397	1.74	1.42	0.80	82	57	2	1.4	1.1	213		
Additional requirements for growth-weight gain at 50 g per day (for all goat sizes)													
		100	0.44	0.36	0.20	14	10	1	0.7	0.3	54		
Additional requirements for growth-weight gain at 100 g per day (for all goat sizes)													
		200	0.88	0.72	0.40	29	20	1	0.7	0.3	108		
Additional requirements for growth-weight gain at 150 g per day (for all goat sizes)													
		300	1.32	1.08	.060	42	39	2	1.4	0.8	162		
Additional requirements for milk production per kg or 2.2 lb at different fat percentages (including requirements for nursing single, twin or triplet kids at the respective milk production level)													
	Daily Energy					Daily Protein		Daily Requirement					
	%Fat	TDN (g)	DE (Mcal)	ME (Mcal)	NE (Mcal)	TP (g)	DP (g)	Ca (g)	P (g)	Vitamin A (1000 IU)	Vitamin D (IU)		
	2.5	333	1.47	1.20	0.68	59	42	2	1.4	3.8	760		
	3.0	337	1.49	1.21	0.68	64	45	2	1.4	3.8	760		
	3.5	342	1.51	1.23	0.69	68	48	2	1.4	3.8	760		
	4.0	346	1.53	1.25	0.70	72	51	3	2.1	3.8	760		
	4.5	351	1.55	1.25	0.71	77	54	3	2.1	3.8	760		
	5.0	356	1.57	1.28	0.72	82	57	3	2.1	3.8	760		
	5.5	360	1.59	1.29	0.73	86	60	3	2.1	3.8	760		
	6.0	365	1.61	1.31	0.74	90	63	3	2.1	3.8	760		
Additional requirements for mohair production by Angora at different production levels													

Annual Feed Requirements												
		Annual Energy				Annual Protein						
Annual Fleece Yield												
(lb)	(kg)	TDN	DE (Mcal)	ME (Mcal)	NE (Mcal)	TP (g)	DP (g)					
4.4	2	16	0.07	0.06	0.03	9	6					
8.8	4	34	0.15	0.12	0.07	17	12					
13.2	6	50	0.22	0.18	0.10	26	18					
17.6	8	66	0.29	0.24	0.14	34	24					

<sup>1</sup> 1 lb = 454 gm or 1 kg = 2.2 lb

<sup>2</sup> Total digestible nutrients

<sup>3</sup> Digestible energy

<sup>4</sup> Metabolizable energy

<sup>5</sup> Net energy

<sup>6</sup> Total protein

<sup>7</sup> Digestible protein