

National Research Council Nutrient Requirements of Sheep

From [Nutrient Requirements of Sheep](#), Sixth Revised Edition (1985), Subcommittee on Sheep Nutrition, Committee on Animal Nutrition, Board on Agriculture, National Research Council, National Academy Press, Washington, D.C. (posted with permission).

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TABLE 2 Nutrient Concentration in Diets for Sheep (expressed on 100 Percent Dry Matter Basis ^a)													
Body weight		Weight change per day		Energy ^b			Example diet proportions		Crude protein	Calcium	Phosphorus	Vitamin A activity	Vitamin E activity
				TDN ^c	DE	ME	Concentrate	Forage					
(kg)	(lb)	(g)	(lb)	%	(Mcal/kg)	(Mcal/kg)	%	%	%	%	%	(IU/kg)	(IU/kg)
Ewes^d													
Maintenance													
70	154	10	0.02	55	2.4	2.0	0	100	9.4	0.20	0.20	2,742	15
Flushing-2 weeks prebreeding and first 3 weeks of breeding													
70	154	100	0.22	59	2.6	2.1	15	85	9.1	0.32	0.18	1,828	15
Nonlactating-First 15 weeks gestation													
70	154	30	0.07	55	2.4	2.0	0	100	9.3	0.25	0.20	2,350	15
Last 4 weeks gestation (130-150% lambing rate expected) or last 4-6 weeks lactation suckling singles^e													
70	154	180 (0.45)	0.40 (0.10)	59	2.6	2.1	15	85	10.7	0.35	0.23	3,306	15
Last 4 weeks gestation (180-225% lambing rate expected)													
70	154	225	0.50	65	2.9	2.3	35	65	11.3	0.40	0.24	3,132	15
First 6-8 weeks lactation suckling singles or last 4-6 weeks lactation suckling twins^e													
70	154	-25 (90)	-0.06 (0.20)	65	2.9	2.4	35	65	13.4	0.32	0.26	2,380	15
First 6-8 weeks lactation suckling twins													
70	154	-60	-0.13	65	2.9	2.4	35	65	15.0	0.39	0.29	2,500	15

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				TDN ^c	DE	ME	Concentrate	Forage					
(kg)	(lb)	(g)	(lb)	%	(Mcal/kg)	(Mcal/kg)	%	%	%	%	%	(IU/kg)	(IU/kg)
Lambs													
<i>Nonlactating-First 15 weeks gestation</i>													
55	121	135	0.30	59	2.6	2.1	15	85	10.6	0.35	0.22	1,668	15
<i>Last 4 weeks gestation (100-120% lambing rate expected)</i>													
55	121	160	0.35	63	2.8	2.3	30	70	11.8	0.39	0.22	2,833	15
<i>Last 4 weeks gestation (130-175% Lambing rate expected)</i>													
55	121	225	0.50	66	2.9	2.4	40	60	12.8	0.48	0.25	2,833	15
<i>First 6-8 weeks lactation suckling singles (wean by 8 weeks)</i>													
55	121	-50	0.22	66	2.9	2.4	40	60	13.1	0.30	0.22	2,125	15
<i>First 6-8 weeks lactation suckling twins (wean by 8 weeks)</i>													
55	121	-100	-0.22	69	3.0	2.5	50	50	13.7	0.37	0.26	2,292	15
<i>Replacement Ewe Lambs^f</i>													
30	66	227	0.50	65	2.9	2.4	35	65	12.8	0.53	0.22	1,175	15
40	88	182	0.40	65	2.9	2.4	35	65	10.2	0.42	0.18	1,343	15
50-70	110-154	115	0.25	59	2.6	2.1	15	85	9.1	0.31	0.17	1,567	15
<i>Replacement Ram Lambs^f</i>													
40	88	330	0.73	63	2.8	2.3	30	70	13.5	0.43	0.21	1,175	15
60	132	320	0.70	63	2.8	2.3	30	70	11.0	0.35	0.18	1,659	15
80-100	176-220	270	0.60	63	2.8	2.3	30	70	9.6	0.30	0.16	1,979	15

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Body weight		Weight change per day		Energy ^b			Example diet proportions		Crude protein	Calcium	Phosphorus	Vitamin A activity	Vitamin E activity
				TDN ^c	DE	ME	Concentrate	Forage					
(kg)	(lb)	(g)	(lb)	%	(Mcal/kg)	(Mcal/kg)	%	%	%	%	%	(IU/kg)	(IU/kg)
Lambs Finishing-4 to 7 months old^g													
30	66	295	0.65	72	3.2	2.5	60	40	14.7	0.51	0.24	1,085	15
40	88	275	0.60	76	3.3	2.7	75	25	11.6	0.42	0.21	1,175	15
50	110	205	0.45	77	3.4	2.8	80	20	10.0	0.35	0.19	1,469	15
Early Weaned Lambs-Moderate and rapid growth potentials													
10	22	250	0.55	80	3.5	2.9	90	10	26.2	0.82	0.38	940	20
20	44	300	0.66	78	3.4	2.8	85	15	16.9	0.54	0.24	940	20
30	66	325	0.72	78	3.3	2.7	85	15	15.1	0.51	0.24	1,085	15
40-60	88-132	400	0.88	78	3.3	2.7	85	15	14.5	0.55	0.28	1,253	15

^aValues in Table 2 are calculated from daily requirements in Table 1 divided by DM intake. The exception, vitamin E daily requirements /head, are calculated from vitamin E/kg diet x DM intake.

^bOne kilogram TDN = 4.4 Mcal DE (digestible energy); ME (metabolizable energy) = 82% of DE. Because of rounding errors, values in Table 1 and Table 2 may differ.

^cTDN calculated on following basis: hay DM, 55% TDN and on as-fed basis 50% TDN; grain DM, 83% TDN and on as-fed basis 75% TDN.

^dValues are for ewes in moderate condition. Fat ewes should be fed according to the next lower weight category and thin ewes at the next higher weight category.

Once desired or moderate weight condition is attained, use that weight category through all production stages.

^eValues in parentheses are for ewes suckling lambs the last 4-6 weeks of lactation.

^fLambs intended for breeding; thus, maximum weight gains and finish are of secondary importance.

^gMaximum weight gains expected.