

Exercise- 5

Calculation of requirements of nutrients in terms of DCP, TDN, and metabolizable energy (ME) for wool

Requirements for wool production is little bit different than for other purposes as there will be special demand for mineral sulphur. It is a constituent of wool and contributes about 4% in the composition of wool.

Table: Nutrient requirements of sheep for wool production (ICAR, 1998)

Body Wt. (kg)	DM (g)	DCP (g)	TDN (g)	ME (Mcal)	Ca (g)	P (g)	S (g)
20	730	40	330	1.19	1.5	1.0	1.7
25	870	47	390	1.41	1.7	1.1	2.1
30	1000	54	450	1.62	2.0	1.3	2.4
35	1100	60	500	1.80	2.2	1.5	2.6
40	1230	67	555	2.00	2.5	1.6	2.9
45	1350	73	610	2.20	2.7	1.8	3.2
50	1470	80	660	2.38	2.9	1.9	3.5
55	1580	85	710	2.56	3.2	2.1	3.8
60	1680	90	755	2.72	3.4	2.2	4.0

Exercise- 6

Calculation of requirements of nutrients in terms of DCP, TDN, and metabolizable energy (ME) for reproduction

- **Table: Nutrient requirements for breeding bulls (ICAR, 2013)**

B. wt. (kg)	DM (kg)	CP (g)	TDN (kg)	ME (Mcal)
400	7.6	436	3.82	13.8
500	9.7	515	4.52	16.3
600	11.9	591	5.18	18.7

- **Table: Nutrient requirements of the cattle/day during last trimester of pregnancy (ICAR, 2013)**

Month of gestation	Dry feed (kg)	CP (g)	TDN (kg)	ME (Mcal)
6-7	0.85	169	0.64	2.30
7-8	0.99	216	0.74	2.67
8-9	1.13	263	0.84	3.05

- **Table: Nutrient requirements of the buffalo/day during last trimester of pregnancy (ICAR, 2013)**

Month of gestation	Dry feed (kg)	CP (g)	TDN (kg)	ME (Mcal)
6-7	1.0	203	0.8	2.76
7-8	1.2	259	0.9	3.21
8-9	1.4	316	1.0	3.66
9-10	1.5	373	1.1	4.11

- **Table: Requirement of major minerals for pregnancy for cattle and buffaloes**

Major mineral	Requirement (g/d)	
	Up to 190 days	190 days onwards
Ca	1.0	10
P	1.5	6
Na	Nil	1.39
Cl	Nil	1.0
K	Nil	1.027
Mg	Nil	0.33

- **Table: Nutrient requirements for pregnant does (ICAR, 1998)**

B. wt. (kg)	Dry feed (g)	DCP (g)	TDN (g)	ME (Mcal)	Ca (g)	P (g)
15	700	42	385	1.38	2.1	1.4

20	865	52	475	1.72	2.6	1.7
25	1025	62	564	2.03	3.1	2.1
30	1170	71	645	2.33	3.5	2.3
35	1320	80	725	2.62	4.0	2.7
40	1460	88	802	2.89	4.4	2.9
45	1590	96	875	3.16	4.8	3.2
50	1725	104	984	3.42	5.2	3.5
55	1850	112	1018	3.67	5.5	3.7
60	1975	120	1086	3.92	5.9	3.9

- Table: Nutrient requirements for pregnant ewes (ICAR, 2013)**

B. wt. (kg)	Dry feed (g)	DCP (g)	TDN (g)	ME (Mcal)
25	880	75	590	2.12
30	1010	86	670	2.43
35	1130	97	750	2.72
40	1250	107	830	3.01
45	1370	117	910	3.29
50	1480	127	990	3.56
55	1590	136	1060	3.82
60	1700	145	1130	4.08

- Table: Minerals requirements for Pregnancy in sheep (g/kg DM) (ICAR, 2013)**

Minerals	Pregnancy	
	One	Twin
Calcium	1.4-1.6	2.0-2.6
Phosphorus	1.0-1.6	1.6-2.0

Exercise- 7

Calculation of requirements of nutrients in terms of DCP, TDN, and metabolizable energy (ME) for draft

- **Table: Nutrient requirements of working bullocks (ICAR, 2013)**

Light Work 4 hr:

B. wt. (kg)	Dry feed (kg)	CP (g)	TDN (kg)	ME (Mcal)
300	6.5	380	3.70	13.3
400	8.6	472	4.59	16.6
500	10.8	558	5.42	19.6
600	13.0	640	6.22	22.5

Heavy Work 8 hr:

B. wt. (kg)	Dry feed (kg)	CP (g)	TDN (kg)	ME (Mcal)
300	6.5	415	4.93	17.8
400	8.6	515	6.12	22.1
500	10.8	609	7.23	26.1
600	13.0	698	8.29	29.9

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