

Indian Journal of Animal Sciences 93 (9): 911–915, September 2023/Article https://doi.org/10.56093/ijans.v93i9.129508

Effect of supplementary concentrate feeding to lambs on the growth performance and body morphometry

J D MOHANTY¹, B PANIGRAHI¹, N PANDA¹, J BAGH^{1 \boxtimes} and L SAMAL¹

Odisha University of Agriculture and Technology, Bhubaneswar, Odisha 751 003 India

Received: 26 October 2022; Accepted: 9 August 2023

Table 1. Fortnightly straight length of lambs

Straight length (cm) Male Female Group 1 Group 2 Group 1 Group 2 22.7 ± 0.35 22.30 ± 0.29 22.05 ± 0.28 21.87±0.29 23.81 ± 0.28 23.54 ± 0.32 22.95 ± 0.28 22.78 ± 0.30 25.10 ± 0.37 25.50±0.30 24.33 ± 0.28 24.12 ± 0.22 25.84 ± 0.29^{A} 27.34 ± 0.29 27.64±0.39 26.90±0.28^B 29.43 ± 0.30^a 30.59 ± 0.40^{b} 27.42 ± 0.30^{A} 29.80 ± 0.26^{B} $31.36{\pm}0.31^{\rm A}$ $33.06{\pm}0.48^{\rm B}$ 29.02 ± 0.35^{A} 32.22 ± 0.30^{B} $32.73 \pm 0.34^{\mathrm{A}}$ 34.97 ± 0.55^{B} 29.89 ± 0.45^{A} 34.24 ± 0.35^{B} 31.57 ± 0.36^{A} 34.41±0.45^A 36.66 ± 0.57^{B} 35.68 ± 0.41^{B} $35.46 \pm 0.49^{\mathrm{A}}$ $37.92{\pm}0.60^{\rm B}$ 32.54 ± 0.25^{A} $36.76{\pm}0.44^{\rm B}$ 36.35±0.42^A 38.91 ± 0.62^{B} 33.22±0.25^A 37.58 ± 0.25^{B} 37.11 ± 0.42^{A} 39.72 ± 0.62^{B} 33.85 ± 0.27^{A} 38.36 ± 0.44^{B} 37.81 ± 0.41^{A} $40.44{\pm}0.62^{\rm B}$ $34.32 \pm 0.27^{\mathrm{A}}$ 38.96 ± 0.44^{B} $38.35 \pm 0.42^{\mathrm{A}}$ 41.08 ± 0.62^{B} 34.79 ± 0.27^{A} 39.50 ± 0.45^{B} 41.69±0.63^B 35.34 ± 0.29^{A} 40.02 ± 0.44^{B} 38.87±0.43^A $39.34 \pm 0.63^{\mathrm{A}}$ $42.19{\pm}0.63^{\rm B}$ 35.72 ± 0.29^{A} $40.34{\pm}0.41^{\rm B}$

Table 2. Fortnightly obliquely length of lambs

Oblique length (cm)			
Male		Female	
Group 1	Group 2	Group 1	Group 2
27.00±0.44	26.83±0.38	26.48±0.31	25.98±0.32
28.73 ± 0.48	28.57 ± 0.37	27.87 ± 0.31	27.40 ± 0.31
30.37 ± 0.54	30.35 ± 0.39	29.36 ± 0.32	28.96 ± 0.30
32.38 ± 0.60^a	33.87 ± 0.39^{b}	31.17 ± 0.31	31.84 ± 0.33
35.10 ± 0.61^{A}	$37.01 \pm 0.36^{\mathrm{B}}$	33.49 ± 0.29^{A}	$34.78 \pm 0.29^{\mathrm{B}}$
37.84 ± 0.52^{A}	$40.73 \pm 0.37^{\mathrm{B}}$	$36.23{\pm}0.32^{\rm A}$	38.32 ± 0.31^{B}
40.81 ± 0.44^{A}	44.47 ± 0.41^{B}	39.06 ± 0.32^{A}	41.95±0.35 ^B
41.49 ± 0.45^{A}	$45.92\pm0.42^{\mathrm{B}}$	39.85 ± 0.33^{A}	43.31 ± 0.38^{B}
41.97 ± 0.46^{A}	46.87 ± 0.44^{B}	40.47 ± 0.35^{A}	$44.00\pm0.37^{\mathrm{B}}$
42.39±0.47 ^A	$47.53\pm0.43^{\mathrm{B}}$	40.96 ± 0.35^{A}	44.55±0.37 ^B
42.77 ± 0.46^{A}	$48.04\pm0.42^{\mathrm{B}}$	41.38 ± 0.35^{A}	$44.97 \pm 0.37^{\mathrm{B}}$
43.11 ± 0.44^{A}	48.47 ± 0.41^{B}	41.75±0.35 ^A	$45.36\pm0.37^{\mathrm{B}}$
43.40±0.43 ^A	48.87 ± 0.41^{B}	42.09±0.35 ^A	45.71±0.37 ^B
43.73 ± 0.43^{A}	49.24 ± 0.39^{B}	42.43±0.37 ^A	$46.04\pm0.37^{\mathrm{B}}$
44.13±0.43 ^A	49.60±0.37 ^B	42.72±0.37 ^A	46.32±0.37 ^B

^{a,b}Means in a row bearing different superscripts differ significantly (P<0.05). ^{A,B}Means in a row bearing different superscripts differ significantly (P<0.01).

 $^{^{}a,b}$ Means in a row bearing different superscripts differ significantly (P<0.05). A,B Means in a row bearing different superscripts differ significantly (P<0.01).

Table 3. Fortnightly height at wither of lambs

Height at wither (cm)			
Male		Female	
Group 1	Group 2	Group 1	Group 2
25.06±0.36	24.7±0.38	24.08 ± 0.45	24.02 ± 0.34
26.75 ± 0.38	26.27 ± 0.38	25.38 ± 0.45	25.46 ± 0.35
28.59 ± 0.40	28.15 ± 0.36	26.95 ± 0.46	27.09 ± 0.35
30.66 ± 0.42	31.39 ± 0.36	$28.70{\pm}0.46^{\rm a}$	30.07 ± 0.34^{b}
$32.95{\pm}0.51^{A}$	$34.69 \pm 0.32^{\mathrm{B}}$	30.71 ± 0.45^{A}	$33.18{\pm}0.35^{\mathrm{B}}$
35.70 ± 0.57^{A}	$38.10\pm0.30^{\rm B}$	32.99 ± 0.47^{A}	$36.28{\pm}0.35^{\mathrm{B}}$
38.07 ± 0.68^{A}	$41.31{\pm}0.24^{\rm B}$	34.92 ± 0.48^{A}	$38.94{\pm}0.37^{\rm B}$
$40.10\pm0.75^{\mathrm{A}}$	$43.67 \pm 0.22^{\mathrm{B}}$	36.58 ± 0.48^{A}	$41.2 \pm 0.33^{\mathrm{B}}$
41.73 ± 0.83^{A}	$45.61 \pm 0.22^{\mathrm{B}}$	37.77 ± 0.44^{A}	$43.09{\pm}0.32^{\rm B}$
$42.98{\pm}0.90^{\rm A}$	$47.24\pm0.25^{\mathrm{B}}$	$38.83{\pm}0.44^{\rm A}$	$44.63 \pm 0.33^{\mathrm{B}}$
43.99 ± 0.98^{A}	$48.43{\pm}0.30^{\rm B}$	39.67 ± 0.45^{A}	$45.92{\pm}0.34^{\rm B}$
$44.74{\pm}1.02^{\mathrm{A}}$	$49.44 \pm 0.32^{\mathrm{B}}$	$40.36{\pm}0.44^{\mathrm{A}}$	$46.82{\pm}0.38^{\rm B}$
$45.40{\pm}1.05^{\rm A}$	$50.23{\pm}1.06^{\rm B}$	$40.89 \pm 0.43^{\mathrm{A}}$	$47.61{\pm}0.42^{\rm B}$
$45.84{\pm}1.05^{\mathrm{A}}$	$50.86 \pm 0.33^{\mathrm{B}}$	41.38 ± 0.43^{A}	$48.14{\pm}0.43^{\rm B}$
46.22±1.05 ^A	$51.28 \pm 0.33^{\mathrm{B}}$	41.75±0.43 ^A	$48.49{\pm}0.42^{\rm B}$

 $^{a,b}Means$ in a row bearing different superscripts differ significantly (P<0.05). $^{A,B}Means$ in a row bearing different superscripts differ significantly (P<0.01).

Table 4. Fortnightly height at croup of lambs

Height at croup (cm)				
Male		Female		
Group 1	Group 2	Group 1	Group 2	
24.18±0.27	23.86±0.49	23.83±0.32	23.51±0.38	
26.75 ± 0.38	26.27 ± 0.38	24.40 ± 0.29	24.25 ± 0.37	
26.33 ± 0.33	26.03 ± 0.51	25.16 ± 0.28	25.07 ± 0.39	
27.66 ± 0.37	28.78 ± 0.52	26.52 ± 0.31	27.39 ± 0.43	
29.67 ± 0.47^{A}	$31.63 \pm 0.52^{\mathrm{B}}$	$28.35{\pm}0.38^{\rm A}$	$29.95 \pm 0.43^{\mathrm{B}}$	
31.90 ± 0.55^{A}	$34.75 \pm 0.48^{\rm B}$	$30.54{\pm}0.44^{\rm A}$	$32.84{\pm}0.40^{\rm B}$	
$34.73{\pm}0.58^{\text{A}}$	$38.21 \pm 0.46^{\mathrm{B}}$	33.34 ± 0.43^{A}	$35.80{\pm}0.44^{\rm B}$	
37.34 ± 0.70^{A}	$40.03{\pm}0.47^{\rm B}$	36.22 ± 0.54	37.30 ± 0.42	
38.85 ± 0.65^{A}	$41.30{\pm}0.51^{\rm B}$	37.74 ± 0.57	38.62 ± 0.39	
39.97 ± 0.69^{A}	$42.52\pm0.51^{\mathrm{B}}$	38.61 ± 0.57	39.65 ± 0.39	
40.67 ± 0.57^{A}	$43.46 \pm 0.55^{\mathrm{B}}$	39.30 ± 0.60	40.36 ± 0.39	
$41.34{\pm}0.57^{\mathrm{A}}$	$44.31 \pm 0.55^{\mathrm{B}}$	39.86 ± 0.59	40.94 ± 0.37	
$41.88 \pm 0.58^{\mathrm{A}}$	$45.01{\pm}0.58^{\rm B}$	40.33 ± 0.58	41.43 ± 0.36	
42.33 ± 0.60^{A}	$45.58{\pm}0.60^{\rm B}$	40.66 ± 0.57	41.80 ± 0.36	
42.45 ± 0.62^{A}	45.99 ± 0.60^{B}	40.96 ± 0.56	42.11 ± 0.36	

 $^{a,b}Means$ in a row bearing different superscripts differ significantly (P<0.05). $^{A,B}Means$ in a row bearing different superscripts differ significantly (P<0.01).

Table 5. Fortnightly chest girth of lambs

Chest girth (cm)				
M	Male		Female	
Group 1	Group 2	Group 1	Group 2	
27.79±0.46	27.73±0.49	26.28 ± 0.24	26.20 ± 0.36	
30.52 ± 0.49	30.33 ± 0.52	28.45 ± 0.28	28.55 ± 0.38	
33.12 ± 0.50	33.00 ± 0.54	31.07 ± 0.25	30.99 ± 0.38	
35.91 ± 0.51	36.81 ± 0.54	33.78 ± 0.24	34.41 ± 0.40	
38.52 ± 0.54^a	40.25 ± 0.56^{b}	$36.23{\pm}0.23^a$	37.55 ± 0.44^{b}	
$40.44{\pm}0.55^{\mathrm{A}}$	43.33 ± 0.58^{B}	38.12 ± 0.25^{A}	40.63 ± 0.46^{B}	
42.26 ± 0.51^{A}	$46.19{\pm}0.60^{\rm B}$	$40.08{\pm}0.29^{\rm A}$	$43.40{\pm}0.43^{\mathrm{B}}$	
$44.92\pm0.52^{\mathrm{A}}$	$48.43{\pm}0.67^{\rm B}$	$42.63{\pm}0.30^{\mathrm{A}}$	45.64 ± 0.39^{B}	
$45.70\pm0.54^{\rm A}$	$49.77{\pm}0.74^{\rm B}$	$43.34 \pm 0.34^{\mathrm{A}}$	46.99 ± 0.39^{B}	
46.27 ± 0.55^{A}	50.75 ± 0.78^{B}	43.79 ± 0.36^{A}	47.70 ± 0.39^{B}	
$46.79\pm0.54^{\mathrm{A}}$	51.58 ± 0.81^{B}	44.31 ± 0.36^{A}	48.37 ± 0.38^{B}	
47.39 ± 0.55^{A}	$52.31 \pm 0.82^{\mathrm{B}}$	$44.88 \pm 0.37^{\mathrm{A}}$	$48.94{\pm}0.38^{\rm B}$	
47.78 ± 0.57^{A}	$52.94 \pm 0.85^{\mathrm{B}}$	45.31 ± 0.35^{A}	$49.51{\pm}0.37^{\rm B}$	
48.15 ± 0.58^{A}	$53.47 \pm 0.87^{\mathrm{B}}$	45.68 ± 0.35^{A}	$49.99{\pm}0.37^{\rm B}$	
48.60±0.59 ^A	54.03±0.85 ^B	46.04±0.36 ^A	50.40 ± 0.38^{B}	

 $^{\rm a,b}Means$ in a row bearing different superscripts differ significantly (P<0.05). $^{\rm A,B}Means$ in a row bearing different superscripts differ significantly (P<0.01).

Table 6. Fortnightly paunch girth of lambs

Paunch girth (cm)				
Ma	Male		Female	
Group 1	Group 2	Group 1	Group 2	
28.69±0.38	28.91±0.33	26.92±0.40	26.53±0.41	
32.96 ± 0.46	33.16 ± 0.34	31.09 ± 0.42	30.62 ± 0.41	
37.53 ± 0.47	37.79 ± 0.33	35.32 ± 0.44	34.97 ± 0.45	
41.93 ± 0.46^a	43.09 ± 0.35^{b}	39.66 ± 0.43	40.04 ± 0.47	
$45.96\pm0.49^{\mathrm{A}}$	$48.45{\pm}0.40^{\rm B}$	43.57 ± 0.49	45.04 ± 0.53	
$48.43{\pm}0.48^{\rm A}$	$53.09 \pm 0.44^{\mathrm{B}}$	$46.18\pm0.50^{\mathrm{A}}$	$49.61{\pm}0.56^{\rm B}$	
$50.30{\pm}0.41^{\rm A}$	57.22 ± 0.49^{B}	48.01 ± 0.66^{A}	$53.80 \pm 0.60^{\mathrm{B}}$	
53.08 ± 0.44^{A}	60.22 ± 0.58^{B}	50.97 ± 0.67^{A}	56.48 ± 0.66^{B}	
54.42±0.41 ^A	62.01 ± 0.66^{B}	52.23 ± 0.67^{A}	58.31 ± 0.56^{B}	
54.83 ± 0.43^{A}	$63.18\pm0.70^{\mathrm{B}}$	52.95±0.67 ^A	$59.20{\pm}0.59^{\rm B}$	
55.54 ± 0.42^{A}	$64.02\pm0.71^{\mathrm{B}}$	53.72 ± 0.65^{A}	$59.92 \pm 0.60^{\mathrm{B}}$	
56.47±0.41 ^A	64.82 ± 0.70^{B}	54.60 ± 0.66^{A}	$60.76 \pm 0.61^{\mathrm{B}}$	
57.34±0.41 ^A	65.56 ± 0.69^{B}	55.42 ± 0.67^{A}	61.45 ± 0.62^{B}	
58.60 ± 0.42^{A}	$66.51 \pm 0.67^{\mathrm{B}}$	56.53±0.67 ^A	$62.24{\pm}0.60^{\rm B}$	
60.52±1.08 ^A	67.24±0.63 ^B	57.95±0.78 ^A	62.92 ± 0.57^{B}	

 $^{a,b}Means$ in a row bearing different superscripts differ significantly (P<0.05). $^{A,B}Means$ in a row bearing different superscripts differ significantly (P<0.01).