

Table S1. Effects of feed deprivation on absolute weights of the small intestine in broiler chicks (g)

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	0.974	0.981	0.975	0.052
24	1.97 ^a	1.55 ^b	1.48 ^b	0.119
48	3.67 ^a	3.34 ^b	1.78 ^c	0.106
72	5.61 ^a	5.14 ^a	3.92 ^b	0.309
120	8.97 ^a	8.05 ^{ab}	6.84 ^b	0.556
168	11.91 ^a	10.53 ^b	9.21 ^c	0.432

Mean values with their SEM (n 6). a,b,c Mean values within a row with unlike letters were significantly different (P < 0.05).

Table S2. Effects of feed deprivation on relative weights to the small intestine in broiler chicks (%)

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	2.16	2.22	2.16	0.124
24	4.29 ^a	3.60 ^b	3.59 ^b	0.211
48	6.28 ^a	6.60 ^a	4.47 ^b	0.230
72	8.36	8.22	7.48	0.437
120	10.04	8.93	9.10	0.541
168	10.30 ^a	9.40 ^b	9.09 ^b	0.330

Mean values with their SEM (n= 6). a,b Mean values within a row with unlike letters were significantly different (P < 0.05).

Table S3. Effects of feed deprivation on villus height of jejunum in broiler chicks (μm)

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	342.9	341.9	350.8	10.44
24	502.8 ^a	400.6 ^b	405.1 ^b	15.20
48	587.5 ^a	537.3 ^b	523.3 ^b	7.444
72	702.1 ^a	602.4 ^b	562.0 ^b	23.66
120	824.8 ^a	727.3 ^b	652.0 ^c	21.95
168	906.1 ^a	865.3 ^b	712.0 ^c	13.00

Mean values with their SEM (n 3). a,b,c Mean values within a row with unlike letters were significantly different (P < 0.05).

Table S4. Effects of feed deprivation on villus height of ileum in broiler chicks (μm)

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	244.1	247.8	242.0	10.00
24	427.7 ^a	333.0 ^b	334.0 ^b	27.77
48	482.9 ^a	419.1 ^b	381.0 ^c	11.28
72	474.2 ^a	500.1 ^a	412.6 ^b	11.77
120	576.5 ^a	562.5 ^a	458.2 ^b	6.319
168	732.9 ^a	636.0 ^b	620.9 ^b	14.03

Mean values with their SEM (n 3). a,b,c Mean values within a row with unlike letters were significantly different (P

< 0.05).

Table S5. Effects of feed deprivation on crypt depth of jejunum in broiler chicks (µm)

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	37.97	36.76	39.57	1.959
24	59.30 ^a	51.10 ^b	50.37 ^b	3.224
48	75.93 ^a	62.47 ^{ab}	58.70 ^b	4.535
72	88.60 ^a	78.80 ^{ab}	71.57 ^b	6.450
120	119.0 ^a	104.8 ^{ab}	100.0 ^b	5.437
168	128.9 ^a	120.2 ^{ab}	114.4 ^b	5.342

Mean values with their SEM (n 3). a,b Mean values within a row with unlike letters were significantly different (P < 0.05).

Table S6. Effects of feed deprivation on crypt depth of ileum in broiler chicks (µm)

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	52.67	53.93	51.97	3.699
24	74.21 ^a	62.37 ^b	64.60 ^b	2.730
48	85.33 ^a	80.77 ^{ab}	72.70 ^b	3.690
72	103.6 ^a	93.74 ^b	87.02 ^b	2.490
120	109.7	100.6	98.20	5.729
168	123.4	115.6	113.9	6.606

Mean values with their SEM (n 3). a,b Mean values within a row with unlike letters were significantly different (P < 0.05).

Table S7. Effects of feed deprivation on VCR of jejunum in broiler chicks

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	9.04	9.33	8.90	0.534
24	8.49	7.89	8.07	0.548
48	7.77	8.62	8.98	0.583
72	7.97	7.66	7.88	0.451
120	6.95	6.96	6.53	0.370
168	7.04 ^{ab}	7.21 ^a	6.24 ^b	0.308

VCR=villus height: crypt depth ratio

Mean values with their SEM (n 3). a,b,c Mean values within a row with unlike letters were significantly different (P < 0.05)

Table S8. Effects of feed deprivation on VCR of ileum in broiler chicks

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	4.65	4.60	4.70	0.380
24	5.78	5.39	5.18	0.644
48	5.68	5.20	5.25	0.309
72	4.58 ^b	5.34 ^a	4.74 ^b	0.079
120	5.27 ^{ab}	5.77 ^a	4.56 ^b	0.349

168	5.97	5.51	5.47	0.436
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VCR=villus height: crypt depth ratio

Mean values with their SEM (n 3). a,b,c Mean values within a row with unlike letters were significantly different ($P < 0.05$)

Table S9. Relative gene expressions of occludin in jejunum on three groups at 0, 24, 48, 72, 120, 168 h after placement.

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	1.007	1.068	0.968	0.085
24	1.012	1.000	0.954	0.097
48	1.013 ^a	0.864 ^b	0.760 ^b	0.066
72	1.005	1.020	0.949	0.097
120	1.016	0.976	0.878	0.085
168	1.038 ^a	0.826 ^b	0.833 ^b	0.046

Mean values with their SEM (n 6). a, b, c Mean values within a row with unlike letters were significantly different ($P < 0.05$).

Table S10. Relative gene expressions of occludin (a) and claudin-1 (b) in jejunum on three groups at 0, 24, 48, 72, 120, 168 h after placement.

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	1.024	0.971	1.047	0.103
24	1.016 ^a	0.728 ^b	0.692 ^b	0.084
48	1.018 ^a	0.669 ^b	0.252 ^c	0.085
72	1.058	0.991	1.015	0.080
120	1.027	0.914	0.921	0.076
168	1.026 ^a	0.912 ^{ab}	0.883 ^b	0.051

Mean values with their SEM (n 6). a, b, c Mean values within a row with unlike letters were significantly different ($P < 0.05$).

Table S11. Relative protein expressions of occludin in jejunum on three groups at 0, 24, 48, 72, 120, 168 h after placement.

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	72.69	73.44	74.54	4.709
24	77.81	68.35	79.60	7.369
48	139.3 ^a	87.14 ^b	40.47 ^c	6.948
72	88.80	90.95	92.37	6.081
120	75.71	76.13	65.92	4.448
168	73.78 ^a	58.14 ^{ab}	43.61 ^b	7.120

Mean values with their SEM (n 6). a, b, c Mean values within a row with unlike letters were significantly different ($P < 0.05$).

Table S12. Relative protein expressions of claudin-1 in jejunum on three groups at 0, 24, 48, 72, 120, 168 h after placement.

Time after placement (h)	Time of feed deprivation (h)			SEM
	0	24	48	
0	76.59	78.60	80.59	3.440
24	86.87 ^a	55.13 ^b	62.94 ^b	3.039
48	205.4 ^a	67.69 ^b	40.58 ^c	6.660
72	84.12 ^a	61.38 ^b	53.04 ^b	3.845
120	62.26	53.77	64.54	4.500
168	105.4 ^a	87.33 ^a	46.31 ^b	6.320

Mean values with their SEM (n 6). a, b, c Mean values within a row with unlike letters were significantly different ($P < 0.05$).

Table S13. Effects of initial feeding time on growth performance and feed utilization in broilers.

Items	Group			SEM
	A	B	C	
1-7d				
1d BW(g)	42.97	43.03	42.89	0.378
7d BW(g)	123.8 ^a	111.6 ^b	97.79 ^c	1.109
ADG (g/d)	11.61 ^a	9.79 ^b	7.84 ^c	0.161
ADFI (g/d)	14.73 ^a	13.95 ^a	10.22 ^b	0.383
F/G	1.269 ^b	1.425 ^a	1.303 ^b	0.031
1-21d				
21d BW (g)	474.1 ^a	455.0 ^{ab}	421.1 ^b	14.51
ADG (g/d)	20.53 ^a	19.62 ^{ab}	18.02 ^b	0.685
ADFI (g/d)	28.45 ^a	27.00 ^{ab}	25.76 ^b	0.886
F/G	1.386 ^b	1.376 ^b	1.430 ^a	0.015
22-50d				
50d BW(g)	1744	1723	1674	61.51
ADG (g/d)	44.19	43.74	42.84	1.705
ADFI (g/d)	111.6	109.3	106.7	3.124
F/G	2.530	2.500	2.493	0.040
1-50d				
ADG (g/d)	34.02	33.61	32.61	1.229
ADFI (g/d)	74.33	72.90	70.97	2.231
F/G	2.188	2.170	2.178	0.021

Mean values with their SEM (n=6). a, b, c Mean values within a row with unlike letters were significantly different ($P < 0.05$).

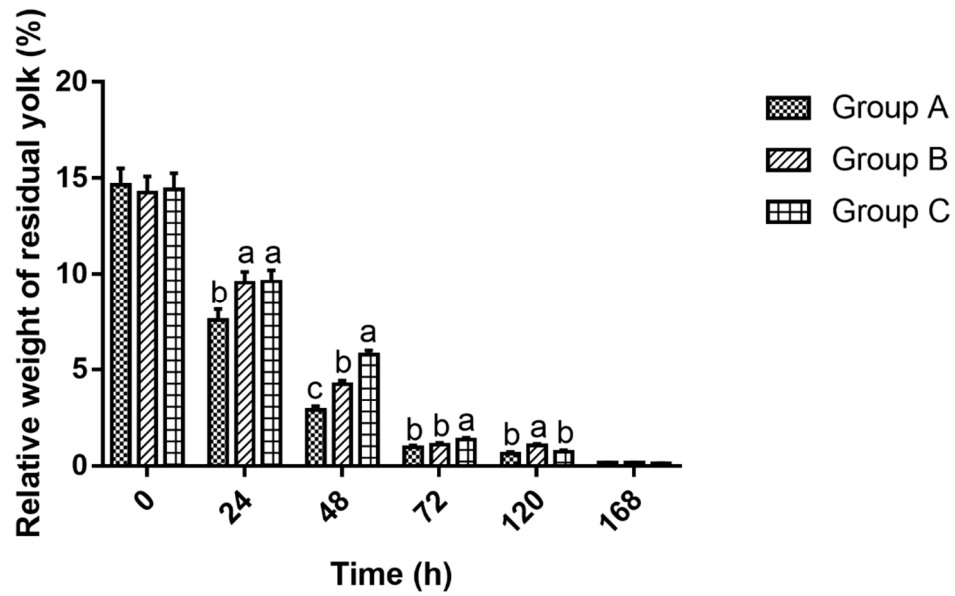


Figure S1. Effects of feed deprivation on relative weight of residual yolk in broiler chicks (n 6). a,b,c Mean values within a row with unlike letters were significantly different ($P < 0.05$).

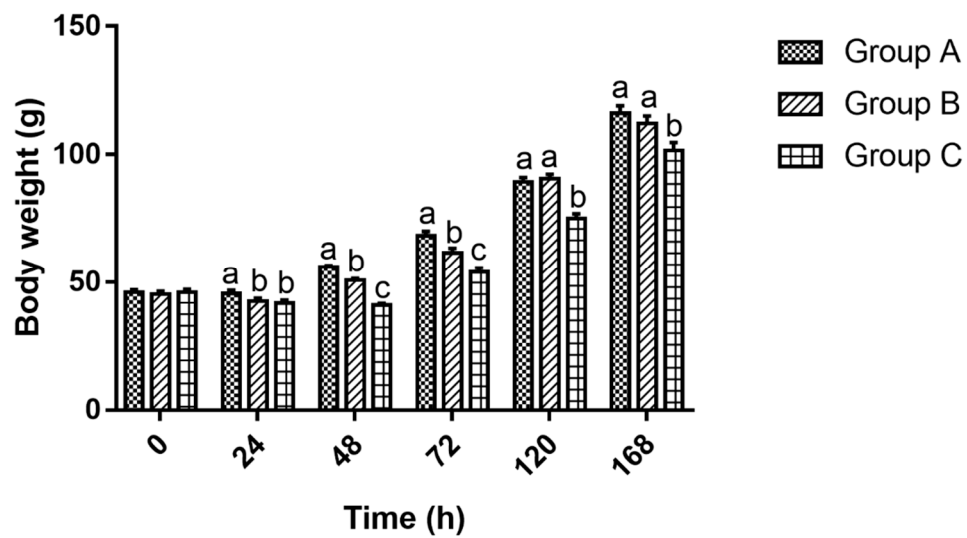


Figure S2. Effects of feed deprivation on body weight. Mean values with their SEM (n=6). a,b,c Mean values within a row with unlike letters were significantly different ($P < 0.05$).