Table S1. Protein fractions of the feed samples.

Items	Protein fractions (Mean, n=3)		
	CP[1] %	SP[2] (%CP)	ISP[3] (%CP)
Rice straw	8.2	20.4	79.6
Corn	8	24.3	75.7
Soybean meal	46.9	35.9	64.1
Wheat bran	15.4	33.7	66.3
Corn protein meal	65.5	6.4	93.6
Urea	281	100	0

[1]CP = crude protein;

[2]SP = soluble protein;

[3]ISP = insoluble protein.

Table S2. Trend analysis of each treatment's NH$_3$-N content at different time points *in vitro*.

Sampling Time/h	Treatment				SEM	*P*-Value		
	S20	S30	S40	S50		T	L	Q
2	18.65	17.52	17.21	19.24	0.409	0.274	0.684	0.072
4	11.79[b]	12.17[b]	12.66[b]	20.96[a]	1.203	<0.001	<0.001	0.002
8	11.82	10.93	12.65	13.78	0.575	0.385	0.170	0.398
12	11.67[c]	12.26[c]	14.48[b]	19.16[a]	1.130	0.044	0.012	0.247
24	15.61[c]	15.85[c]	16.20[bc]	20.45[a]	0.743	0.021	0.046	0.061

a-c values with different superscripts differ significantly at $p \leq 0.05$ among SP treatments.

Treatments: S20, S30, S40 and S50 are ~14% CP, SP proportion (% of CP) 20, 30, 40 and 50 respectively; SEM: standard error of the mean; T: Treatment; L: linear; Q: quadratic.