

Supplementary Information

Supplementary table 1 Raw reads and selected effective sequences in each sample.

Sample Name	Raw Reads	Clean Reads	Read Utilization Ratio(%)	Total Pairs Read Number	Connect Tag Number	Connect Ratio(%)	Average Length And SD	Tag number	OUT number
P50-1	171489*2	166130*2	96.88	166130	165762	99.78	252/1	124451	856
P50-2	175375*2	166551*2	94.97	166551	166143	99.76	252/1	131533	878
P50-3	170105*2	165370*2	97.22	165370	165064	99.81	252/0	125781	722
P50-4	174080*2	168139*2	96.59	168139	167779	99.79	252/1	127660	872
P50-5	171361*2	165663*2	96.67	165663	165304	99.78	252/1	129263	821
P50-6	172303*2	166704*2	96.75	166704	166352	99.79	252/0	129381	824
S50-1	171447*2	164777*2	96.11	164777	164459	99.81	252/1	124754	834
S50-2	173588*2	167793*2	96.66	167793	167378	99.75	252/0	132169	597
S50-3	170912*2	165226*2	96.67	165226	164879	99.79	252/0	127661	830
S50-4	174032*2	165826*2	95.28	165826	165456	99.78	252/0	129295	825
S50-5	173253*2	167065*2	96.43	167065	166625	99.74	252/0	133293	797
S50-6	174870*2	167747*2	95.93	167747	167328	99.75	252/1	125893	858
CDCP-1	172333*2	165666*2	96.13	165666	165268	99.76	252/1	126741	814
CDCP-2	161500*2	155732*2	96.43	155732	155113	99.6	252/1	111151	555
CDCP-3	173039*2	167960*2	97.06	167960	167685	99.84	252/1	127780	849
CDCP-4	171265*2	165938*2	96.89	165938	165590	99.79	252/1	126599	845
CDCP-5	172229*2	167097*2	97.02	167097	166814	99.83	252/1	127711	886
FM-1	171685*2	165512*2	96.4	165512	165247	99.84	252/1	130374	701
FM-2	170669*2	166079*2	97.31	166079	165763	99.81	252/0	128938	714
FM-3	171920*2	167010*2	97.14	167010	166709	99.82	252/0	130367	743
FM-4	173060*2	167600*2	96.85	167600	167277	99.81	252/1	126943	779
FM-5	173173*2	167587*2	96.77	167587	167268	99.81	252/1	127200	764

Supplementary table 2 Number of observed species, richness and diversity indices in the colon samples from each sample.

Items	FM	S50	P50	CDCP	P-Value
Observed species	740.20±32.80	790.17±96.63	828.83±57.47	789.80±133.72	0.449
Chao	842.79±37.51	869.55±118.61	925.20±42.31	891.70±121.83	0.489
Ace	836.37±36.80	862.18±111.89	918.25±35.03	877.36±125.24	0.478
Shannon	4.32±0.10	4.54±0.32	4.55±0.35	4.27±0.72	0.614
Simpson	0.040±0.006	0.032±0.017	0.033±0.015	0.061±0.066	0.491
Good's coverage	0.9991±0.0001	0.9992±0.0002	0.9991±0.0002	0.9991±0.0001	0.340

Data are means of 6 pigs for S50 or P50 group, but 5 pigs for CDCP or FM group, and expressed as the mean ± SD.

Supplementary Table 3 Effects of different protein sources on nursery pigs growth performance

Item	S50	CDCP	P50	Fish meal	SEM	P-value
Initial BW/kg	9.93	9.97	9.85	10.01	0.29	0.652

Final BW/kg	19.61	20.44	19.81	19.79	0.66	0.172
ADFI/(g/d)	563.22	595.26	584.03	569.30	28.70	0.146
ADG/(g/d)	345.80 ^b	373.67 ^a	355.68 ^{ab}	349.35 ^{ab}	24.14	0.074
Feed:Gain	1.63	1.59	1.64	1.63	0.04	0.174

These data have been published in Animal Science Journal⁴⁷. BW: Body Weight; ADFI: Average Daily Feed Intake; ADG: Average Daily Gain; S50: Soyppt-50%; CDCP: Concentrated degossypolized cottonseed protein; P50: Palbio 50 RD. ^{a-b} means with different superscripts in the same row differ significantly ($P<0.05$).