Supplemental Information

Table S1 Cecum weight in response to three dietary groups.

	M	M+S	MS
Weight(g)	0.184±0.002[a]	0.249±0.003[b]	0.232±0.002[ab]
Wall weight(g)	0.085±0.002[a]	0.091±0.001[ab]	0.106±0.001[b]

* (1) n=16, 16, 20, respectively, for M, M+S, and MS. (2) Different letters (a-b) represent significance ($P < 0.05$). (3) M: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then other excipients were mixed to the powder; M+S: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then both RS and other excipients were mixed to the powder; MS: The minced raw lean meat and RS were successively mixed, cooked, chilled, freeze-dried, ground into powder, and then other excipients were added to the mixed powder.

Table S2 Volatile compounds of cecum contents in response to three dietary groups.

RT（min）	Compound	Area percentage（%）		
		M	M+S	MS
21.742	Phenol	9.88±0.92[a]	6.81±1.70[a]	3.67±0.42[a]
22.583	Hexadecanol	1.86±0.79[a]	6.38±0.29[a]	5.72±1.03[a]
24.433	p-Cresol	37.68±2.97[a]	32.57±3.77[a]	31.38±3.28[a]
24.808	m-toluidine	2.43±0.36[a]	3.27±0.47[a]	1.79±0.10[a]
25.250	Nonyl aldehyde	1.95±0.87[a]	0.42±0.04[a]	0.72±0.22[a]
25.875	2-phenylethanol	0.44±0.02[a]	0.53±0.02[a]	0.56±0.13[a]
26.267	Caprylic acid	1.96±0.50[a]	0.30±0.05[a]	0.43±0.02[a]
28.567	Pelargonic acid	0.84±0.22[a]	0.76±0.14[a]	0.80±0.02[a]
28.708	N-phenylformamide	0.71±0.31[a]	0.61±0.01[a]	0.47±0.03[a]
29.925	1-allyl-4-methoxybenzene	3.21±1.87[a]	2.32±0.62[a]	1.87±0.38[a]
30.367	Indole	34.43±1.36[a]	29.83±2.32[a]	22.37±0.02[a]

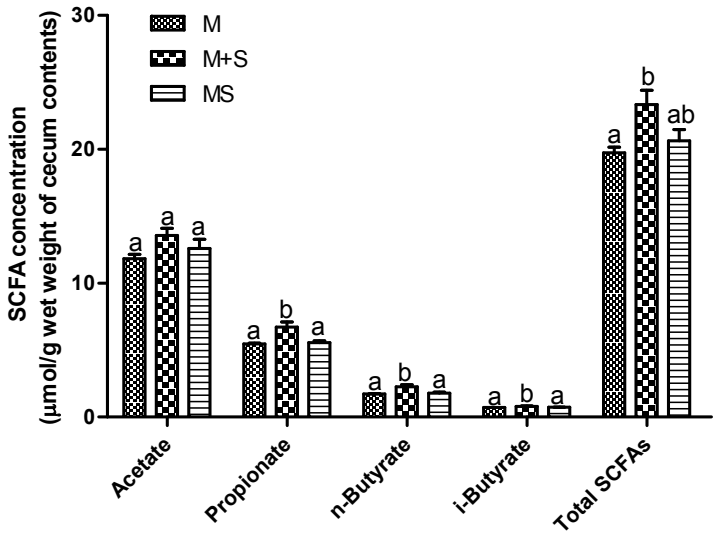
* (1) n=3. (2) M: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then other excipients were mixed to the powder; M+S: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then both RS and other excipients were mixed to the powder; MS: The minced raw lean meat and RS were successively mixed, cooked, chilled, freeze-dried, ground into powder, and then other excipients were added to the mixed powder.

Table S3 Intensity of protein bands from gastric digesta in response to three dietary groups.

	Intensity		
Protein	M	M+S	MS
Thyroglobulin	104.33±4.72[a]	93.33±2.77[a]	107.66±4.22[a]
Myosin-binding protein C	99.66±4.74[a]	106.66±1.71[a]	119.00±4.66[a]
α-actinin	117.33±2.52[a]	107.66±2.50[a]	121.33±1.83[a]
Glutamate dehydrogenase	144.66±1.38[a]	149.66±1.92[a]	158.00±3.28[a]
MLC	190.00±1.15[a]	189.00±1.20[a]	189.66±4.03[a]

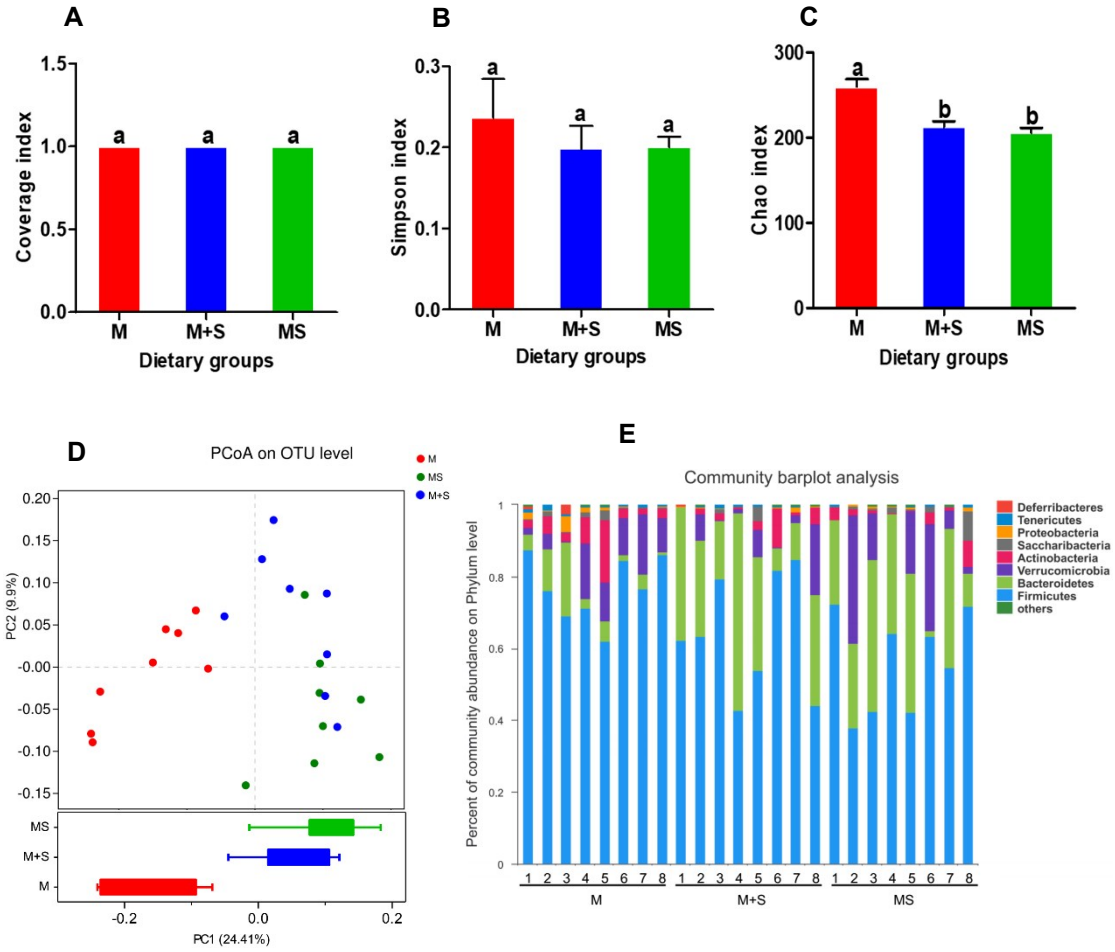
* M: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then other excipients were mixed to the powder; M+S: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then both RS and other excipients were mixed to the powder; MS: The minced raw lean meat and RS were successively mixed, cooked, chilled, freeze-dried, ground into powder, and then other excipients were added to the mixed powder.

Figure S1 SCFA concentration in cecum contents.



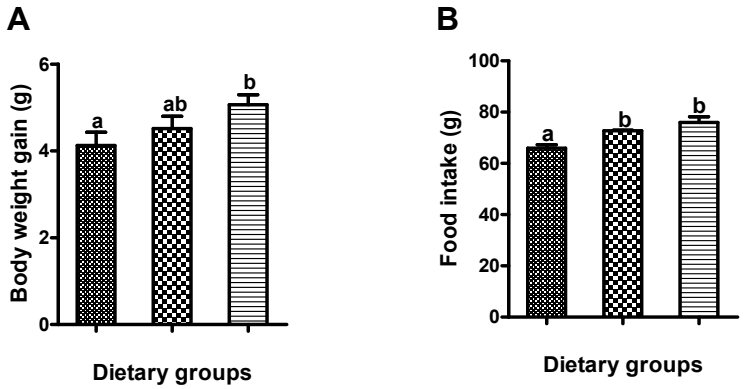
* (1) n=7, 7, 5, respectively, for M, M+S, and MS. (2) Different letters (a-b) represent significance ($P < 0.05$). (3) M: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then other excipients were mixed to the powder; M+S: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then both RS and other excipients were mixed to the powder; MS: The minced raw lean meat and RS were successively mixed, cooked, chilled, freeze-dried, ground into powder, and then other excipients were added to the mixed powder.

Figure S2 Alterations in gut microbiota of colonic content in response to three dietary groups. A) The Good's coverage index. B) The Simpson index. C) The Chao index. D) Principal coordinated analysis of unweighted UniFrac. The percentage variation in the plotted principal coordinates is indicated on the axes. Each spot represents one sample and each group is denoted by a different color. E) Relative abundances of gut bacteria at phylum level.



* (1) n=8. (2) Different letters (a-b) represent significance ($P < 0.05$). (3) M: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then other excipients were mixed to the powder; M+S: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then both RS and other excipients were mixed to the powder; MS: The minced raw lean meat and RS were successively mixed, cooked, chilled, freeze-dried, ground into powder, and then other excipients were added to the mixed powder.

Figure S3 Growth performance in response to three dietary groups.



* (1) n=19,16, 20, respectively, for M, M+S, and MS. (2) Different letters (a-b) represent significance ($P < 0.05$). (3) M: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then other excipients were mixed to the powder; M+S: The minced raw lean meat was successively cooked, chilled, freeze-dried, ground into powder, and then both RS and other excipients were mixed to the powder; MS: The minced raw lean meat and RS were successively mixed, cooked, chilled, freeze-dried, ground into powder, and then other excipients were added to the mixed powder.

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