

Supplementary Table 2 The composition and nutritional value of experimental diets (air-dry basis)

Ingredients	CON	VR-R	VR-W	VR-S	VR-WB
Corn	73.00	68.00	68.00	68.00	68.00
Soybean meal	18.00	18.00	18.00	18.00	18.00
Soybean oil	2.00	2.00	2.00	2.00	2.00
Bran	4.50	4.50	4.50	4.50	4.50
Vinegar residue	-	5.00	5.00	5.00	5.00
L-Lysine	0.32	0.32	0.32	0.32	0.32
DL-Methionine	0.03	0.03	0.03	0.03	0.03
L-Threonine	0.08	0.08	0.08	0.08	0.08
Limestone	0.67	0.67	0.67	0.67	0.67
CaHPO ₄	0.60	0.60	0.60	0.60	0.60
NaCl	0.30	0.30	0.30	0.30	0.30
Choline chloride	0.15	0.15	0.15	0.15	0.15
Mineral premix ¹⁾	0.30	0.30	0.30	0.30	0.30
Vitamin premix ²⁾	0.05	0.05	0.05	0.05	0.05
Total (kg)	100	100	100	100	100
Nutritional value					
Digestible energy (DE)	14.04	13.97	13.90	13.94	13.96
Crude protein (CP)	15.30	15.50	15.57	15.61	15.45
Ether extract (EE)	5.05	5.08	5.12	5.56	5.61
Crude fiber (CF)	3.08	4.56	4.45	3.30	3.62
Calcium	0.68	0.68	0.68	0.68	0.68
Available phosphorus (AP)	0.30	0.30	0.30	0.30	0.30

1) Vitamin premix provided the following per kilogram of diets: vitamin A 15,000 IU, vitamin D3 5000 IU, vitamin E 40.0 IU, vitamin K 5.0 mg, vitamin B1 .0 mg, vitamin B2 2.5 mg, vitamin B6 6.0 mg, vitamin B12 0.06 mg, nicotinic acid 50.0 mg, pantothenic acid 25.0 mg, folic acid 2.5 mg, biotin 0.25 mg.

2) Mineral premix provided the following per kilogram of diets: 25-50 kg, Fe (as ferrous sulfate) 60.0 mg, Cu (as copper sulfate) 4.0 mg, Zn (as zinc sulfate) 60.0 mg, Mn (as manganese sulfate) 2.0 mg, I (as KI) 0.14 mg, Se (as Na₂SeO₃) 0.2 mg. 50-75 kg, Fe (as ferrous sulfate) 50.0 mg, Cu (as copper sulfate) 3.5 mg, Zn (as zinc sulfate) 50.0 mg, Mn (as manganese sulfate) 2.0 mg, I (as KI) 0.14 mg, Se (as Na₂SeO₃) 0.15 mg. 75-135 kg, Fe (as ferrous sulfate) 40.0 mg, Cu (as copper sulfate) 3.0 mg, Zn (as zinc sulfate) 50.0 mg, Mn (as manganese sulfate) 2.0 mg, I (as KI) 0.14 mg, Se (as Na₂SeO₃) 0.15 mg.

