

Table 2. Growth performance response of diets

	3-7 days of age	7-14 days of age	14-21 days of age	3-21 days of age
ADG (g b⁻¹ day⁻¹)				
CON	14.870	27.600 ^a	43.320 ^a	28.600 ^a
RH	15.450	30.650 ^a	51.190	32.430
RHP	14.430	28.560 ^{ab}	45.62 ^a	29.26 ^a
RHPC	14.880	30.190 ^a	49.37 ^a	31.480 ^a
SEM ¹	0.180	0.424	0.899	0.438
p-value	0.270	0.030	0.000	0.000
ADFI (g b⁻¹ day⁻¹)				
CON	21.840	49.460	46.720	46.510 39.570
RH	23.090	52.070	45.550	48.190 40.240
RHP	21.180	47.440	42.340	43.550 37.560
RHPC	22.100	49.550	44.460	45.910 38.700
SEM ¹	0.286	0.744	2.625	0.717 0.503
p-value	0.120	0.180	0.480	0.140 0.300
G:F (g g⁻¹)				
CON	0.682	0.560	0.939	0.617 ^a 0.728 ^a
RH	0.670	0.590	1.126	0.674 ^a 0.807 ^b
RHP	0.681	0.603	1.091	0.685 ^a 0.781 ^{ab}
RHPC	0.674	0.632	1.046	0.697 ^a 0.819 ^b
SEM ¹	0.008	0.015	0.041	0.011
p-value	0.940	0.420	0.420	0.050

¹SEM: Standard error of the mean, CON: Control diet, RH: 4% rice hull inclusion, RHP: RH+phytase 1750 FTU kg⁻¹, RHPC: RHP+cellulase 500 unit kg⁻¹, ^{a,b}: mean values within a column with different superscripts differ significantly (p < 0.05)

Table 3: Diet response on all digestive traits measured at 21 days of age

Treatments	SEM ¹	P-value	CON	RH	RHP	RHPC
GIT weight (g/100 g BW)						
Empty gizzard	1.97 ^{ab}	2.10 ^a	1.67 ^a	2.14 ^a	0.068	0.057
Empty duodenum	0.79	0.88	0.83	0.83	0.026	0.680
Empty jejunum	1.50	1.66	1.54	1.70	0.049	0.450
Empty ileum	1.05	1.18	1.06	1.16	0.036	0.470
Pancreas	0.05	0.05	0.05	0.06	0.002	0.360
GIT length (cm/100 g BW)						
Duodenum length	3.18	3.49	3.38	3.50	0.064	0.260
Jejunum length	8.20	8.54	8.06	8.51	0.172	0.720
Ileum length	8.60	8.78	8.52	8.68	0.181	0.970
GIT content (g/100 g BW)00						
Gizzard content	1.16	1.24	1.18	1.30	0.063	0.870
Duodenum content	0.31	0.38	0.34	0.35	0.020	0.680
Jejunum content	0.57 ^a	0.89 ^b	0.46 ^a	0.55 ^a	0.056	0.030
Ileum content	0.46	0.90	0.63	0.71	0.085	0.330
DM digesta (%)	13.90	17.90	19.20	16.00	0.949	0.280
DM feces (%)	24.60 ^a	23.90 ^a	24.10 ^a	27.30 ^b	0.432	0.010
P-digesta (%)	0.64 ^a	0.58 ^b	0.53 ^{ab}	0.50 ^a	0.012	0.000
P-feces (%)	0.66 ^{ab}	0.60 ^{ab}	0.71 ^a	0.62 ^a	0.011	0.030

¹SEM: Standard error of the mean, CON: Control diet, RH: 4% rice hull inclusion, RHP: RH+phytase 1750 FTU kg⁻¹, RHPC: RHP+cellulase 500 unit kg⁻¹, ^{a,b}: mean values within a row with different superscripts differ significantly (p < 0.05)

Dry matter and P content of digesta and feces: The inclusion of rice hulls did not affect (p > 0.05) digesta DM or fecal DM but supplementation of enzymes on RH affected (p < 0.05) fecal DM (Table 3). Phytase and cellulase supplementation caused higher (p < 0.05) fecal DM than other treatments, which were not significantly different. Broilers fed the RH treatment had higher (p < 0.05) P-disappearance in digesta than those fed the CON treatment. Supplementation of enzymes increased the P-disappearance in the digesta, an effect that was more pronounced for phytase and cellulase than an individual

phytase. The results on P-excretion showed that broilers fed the RH treatment had the same P-excretion as those fed the CON treatment (Table 3). Supplementation of phytase increased the P-excretion, whereas supplementation of phytase and cellulase decreased the P-excretion (p < 0.05).

DISCUSSION

Growth performance was affected by rice hull inclusion in the diet. From 3-21 days of age, the improvement observed

