293 **Table 2.** Analyzed amino acid composition of the experimental diets containing 6 concentrations
294 of standardized ileal digestible lysine (as-fed basis, %)

Item	Standardized ileal digestible lysine concentrations (%)					
	0.72	0.80	0.88	0.96	1.04	1.12
Indispensable amino acids (%)						
Arginine	1.04	1.07	0.98	0.96	1.06	1.01
Histidine	0.46	0.45	0.45	0.45	0.49	0.46
Isoleucine	0.69	0.73	0.69	0.67	0.75	0.73
Leucine	1.85	1.90	1.81	1.81	1.95	1.88
Lysine	0.66	0.77	0.80	0.89	1.03	1.12
Methionine	0.36	0.34	0.32	0.33	0.38	0.38
Phenylalanine	0.85	0.87	0.82	0.82	0.90	0.85
Threonine	0.54	0.56	0.52	0.50	0.57	0.55
Tryptophan	0.17	0.16	0.18	0.17	0.17	0.18
Valine	0.80	0.82	0.80	0.77	0.86	0.83

Table 3. Growth performance of White Pekin ducks from 1 to 21 days of age fed diets containing different dietary standardized ileal digestible lysine concentrations[1].

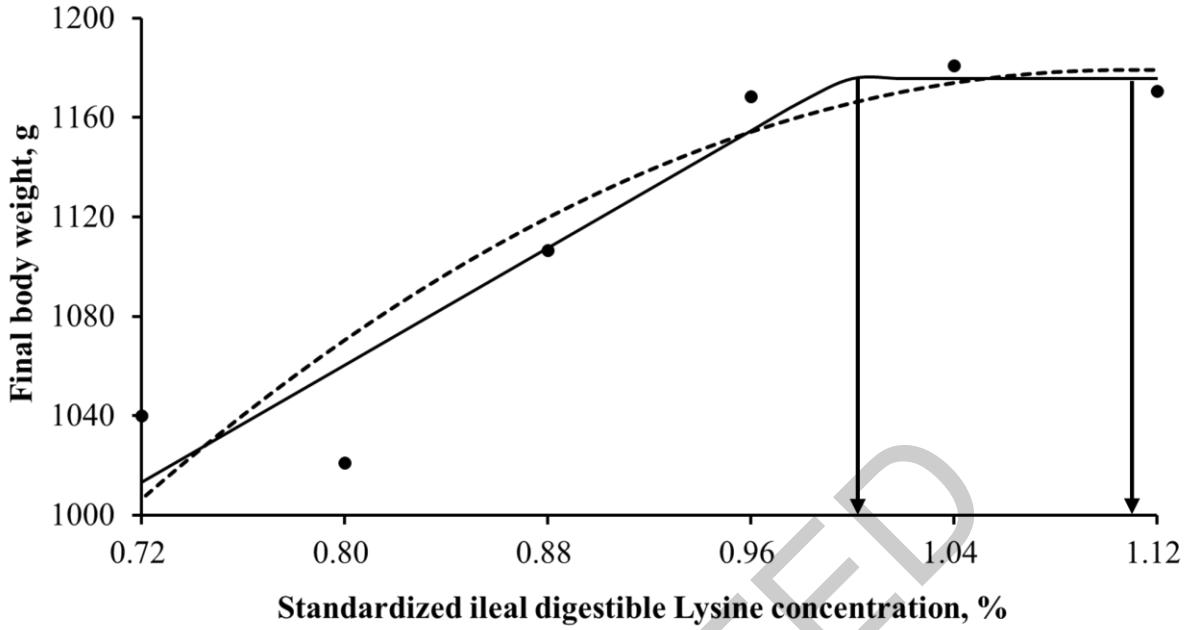
Item	Standardized ileal digestible lysine concentrations (%)						SEM[2]	*P*-value	Polynomial contrast[3]	
	0.72	0.80	0.88	0.96	1.04	1.12			Lin	Quad
BW (g)										
Day 1	52.73	53.11	53.03	53.47	53.04	52.91	0.201	0.937	0.778	0.639
Day 7	173.92^{a}	174.05^{a}	174.56^{a}	189.25^{b}	189.31^{b}	182.69^{ab}	1.049	<0.001	<0.001	<0.001
Day 14	494.42^{ab}	474.06^{a}	540.58^{bc}	573.17^{c}	580.56^{c}	549.72^{c}	4.532	<0.001	<0.001	<0.001
Day 21	1039.75^{ab}	1021.06^{a}	1106.34^{bc}	1168.49^{c}	1180.88^{c}	1170.50^{c}	7.616	<0.001	<0.001	<0.001
ADG (g/bird/d)										
Day 7	17.31^{a}	17.28^{a}	17.36^{a}	19.40^{b}	19.47^{b}	18.54^{ab}	0.148	<0.001	<0.001	<0.001
Day 14	45.79^{ab}	42.86^{a}	52.29^{bc}	54.29^{c}	55.89^{c}	52.43^{bc}	0.656	<0.001	<0.001	<0.001
Day 21	77.90^{a}	78.14^{a}	80.82^{ab}	85.05^{ab}	85.76^{ab}	88.68^{b}	0.856	0.002	<0.001	<0.001
Day 1-21	47.00^{ab}	46.09^{a}	50.16^{bc}	53.10^{c}	53.71^{c}	53.22^{c}	0.357	<0.001	<0.001	<0.001
ADFI (g/bird/d)										
Day 7	26.78	26.56	26.51	26.73	26.64	26.47	0.045	0.304	0.244	0.510
Day 14	79.06	75.08	78.03	77.32	74.65	77.76	0.634	0.299	0.525	0.553
Day 21	141.14	134.54	134.47	137.72	134.51	137.72	1.161	0.493	0.561	0.318
Day 1-21	82.33	78.73	79.67	80.59	78.60	80.65	0.521	0.323	0.473	0.295
FCR (g/g)										
Day 7	1.55^{b}	1.54^{b}	1.53^{b}	1.39^{a}	1.37^{a}	1.43^{ab}	0.011	<0.001	<0.001	<0.001
Day 14	1.74^{b}	1.76^{b}	1.50^{a}	1.41^{a}	1.34^{a}	1.50^{a}	0.018	<0.001	<0.001	<0.001
Day 21	1.82^{b}	1.73^{ab}	1.68^{ab}	1.62^{ab}	1.59^{ab}	1.55^{a}	0.023	0.021	<0.001	0.001
Day 1-21	1.76^{c}	1.71^{bc}	1.59^{ab}	1.52^{a}	1.47^{a}	1.52^{a}	0.014	<0.001	<0.001	<0.001

[1]Values are the mean of eight replicates per treatment.
[2]Pooled standard error of the mean.
[3]Orthogonal polynomial contrast coefficients were used to determine linear (Lin) and quadratic (Quad) effects of increasing digestible lysine.
[a-c]Values in a row with different superscripts differ significantly ($P < 0.05$)
ADFI, average daily feed intake; ADG, average daily gain; BW, body weight; FCR, Feed conversion ratio.

Table 4. Estimated standardized ileal digestible lysine requirements and recommendations for White Pekin ducks from hatch to 21 days of age based on linear-plateau and quadratic-plateau regression analysis[1].

Item	Requirement (%)[2]	SE	R^2	*P*-value	Recommendation (%)[3]
Final BW (g)					
LP	1.00	0.060	0.90	<0.001	1.05
QP	1.11	0.176	0.84	0.008	
ADG (g/bird/day)					
LP	1.00	0.061	0.90	<0.001	1.05
QP	1.11	0.181	0.84	0.009	
FCR (g/g)					
LP	0.98	0.029	0.97	<0.001	1.04
QP	1.10	0.097	0.95	0.002	

[1]LP; Linear-plateau regression analysis, QP; Quadratic-plateau regression analysis, SE; Standard error.
[2]Standardized ileal digestible lysine requirement based on regression analysis.
[3]Standardized ileal digestible lysine recommendation for each parameter based on both regression analyses.
ADG, average daily gain; BW, body weight; FCR, Feed conversion ratio.



309

310 **Figure 1.** Standardized ileal digestible lysine requirements of White Pekin ducks from hatch to

311 21 days of age for final body weight determined by a quadratic-plateau model was 1.11 [Y =

312 1179.14-1152.68(1.11-x)^2, R^2 = 0.84] (open line), and by a linear-plateau model was 1.00 [Y =

313 1175.69-589.38(1.00-x), R^2 = 0.90] (closed line). Data points (●) represent least squares means

314 of dietary treatment (n = 8).

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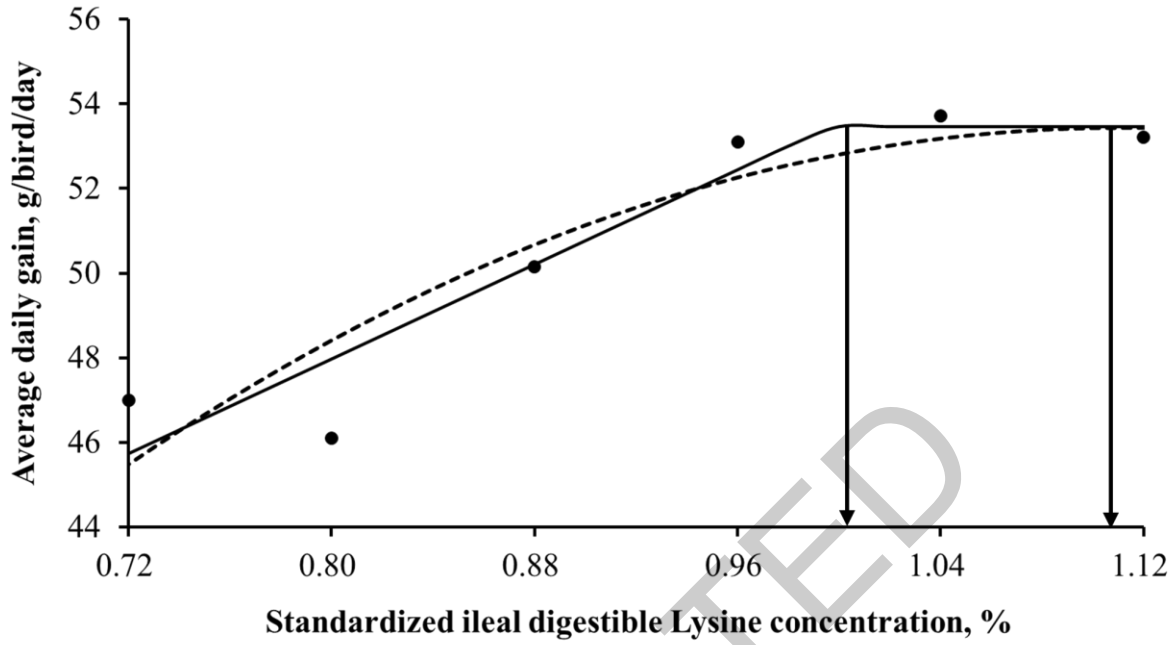

317

318 **Figure 2.** Standardized ileal digestible lysine requirements of White Pekin ducks from hatch to

319 21 days of age for average daily gain determined by a quadratic-plateau model was 1.11 [Y =

320 53.43-52.41(1.11-x)^2, R^2 = 0.84] (open line), and by a linear-plateau model was 1.00 [Y = 53.46-

321 27.96(1.00-x), R^2 = 0.90] (closed line). Data points (●) represent least squares means of dietary

322 treatment (n = 8).

323

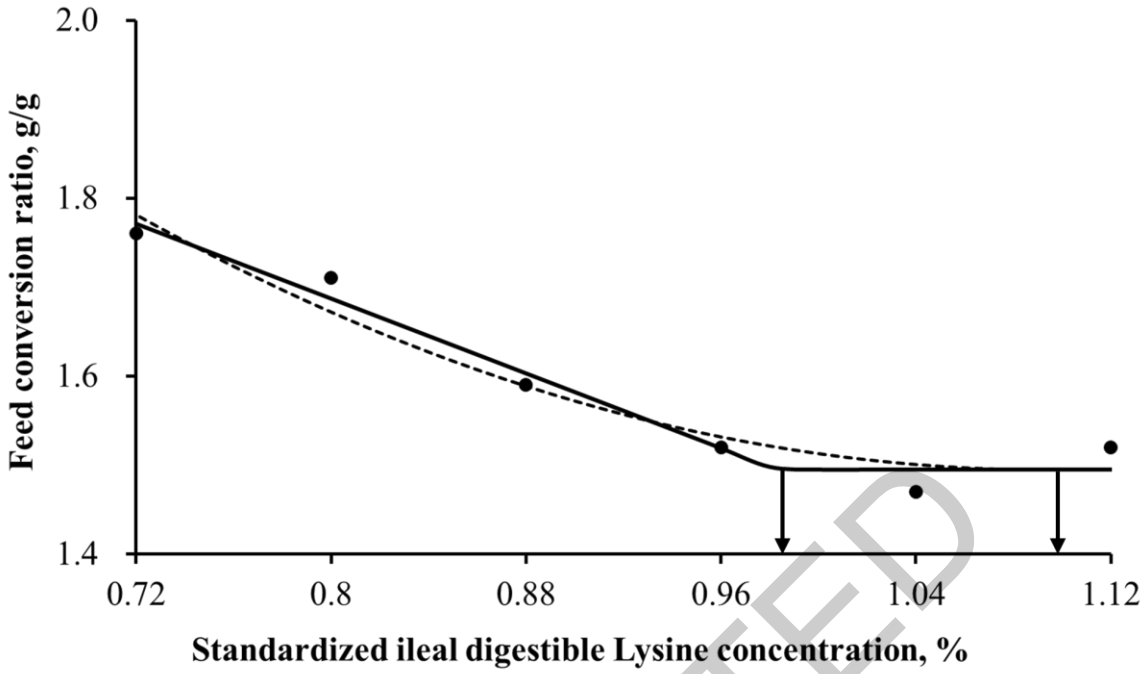

Figure 3. Standardized ileal digestible lysine requirements of White Pekin ducks from hatch to 21 days of age for feed conversion ratio determined by a quadratic-plateau model was 1.10 [$Y = 1.49+2.04(1.10-x)^2$, $R^2 = 0.95$] (open line), and by a linear-plateau model was 0.98 [$Y = 1.50+1.05(0.98-x)$, $R^2 = 0.97$] (closed line). Data points (●) represent least squares means of dietary treatment (n = 8).