

Effects of dietary lysine and metabolizable energy levels on the growth performance and blood biomedical parameters of Lanyu pigs ⁽¹⁾

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Abstract

This study was conducted to investigate the effects of different dietary lysine (Lys) incorporated with metabolizable energy (ME) levels on the growth performance, gain/feed (G/F) and blood biochemical parameters of weaned Lanyu pigs. Thirty-two weaned Lanyu pigs (16 males and 16 females each) averaging 6.2 kg of body weight were randomly allotted to different diets in a 2 × 2 factorial arrangement including two Lys levels (0.64% and 1.00%) and two ME levels (2,400 kcal/kg and 2,800 kcal/kg) for twelve weeks. The results showed that the average body weight and average daily gain of Lys 1.00% group were higher than the Lys 0.64% group significantly ($P < 0.05$) at the end of experiment. Meanwhile, the G/F of ME 2,800 kcal/kg group was higher than ME 2,400 kcal/kg group significantly ($P < 0.01$). However, the average daily feed intake and the increment of backfat thickness were not significantly different while the interactive effects of Lys and ME levels on the growth performance were not significantly different either. In blood biochemical parameters, the blood urea nitrogen was in accordance with normal physiological range of minipigs, wild boar and *Sus domesticus*. Whereas, the Lys 0.64% with ME 2,400 kcal/kg and Lys 1.00% with ME 2,800 kcal/kg groups were higher than Lys 0.64% with ME 2,800 kcal/kg group significantly ($P < 0.05$) at the end of experiment. Besides, the creatinine, triacylglycerol and cholesterol were not significantly different among treatments. We concluded that Lanyu pigs fed diet with Lys 1.00% or ME 2,800 kcal/kg would have better growth performance. However, Lanyu pigs fed diet contained Lys 0.64% and ME 2,400 kcal/kg was adequate to maintain growth with normal physiological performance when considering the characteristics of biomedical researches.

Key words: Lysine, Metabolizable energy, Lanyu pig, Growth performance, Blood biochemical parameters.

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