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杜洛克与鲁烟白杂交断奶仔猪对可消化赖氨酸的需要量

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Digestible Lysine Requirement for Duroc?Luyan White Hybrid Weaner Piglets

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摘要 本试验旨在研究杜洛克与鲁烟白(杜×鲁烟白)杂交断奶仔猪对可消化赖氨酸的需要量。首先,选取体重(35.00±1.25) kg的健康杜×鲁烟白杂交阉公猪6头,按照试验原料的不同配制成7种半纯合饲料进行消化试验,获取饲料原料的回肠表观可消化氨基酸数据。然后,选择(35±2)日龄的杜×鲁烟白杂交断奶仔猪120头,公母各占1/2,平均体重(9.13±1.61) kg,按照饲料可消化赖氨酸水平(0.90%、1.00%、1.10%、1.20%)分4个组,每个组6个重复(3个阉公猪圈、3个母猪圈),每个重复5头猪。结果表明:1)所有试验仔猪,0.90%、1.10%和1.20%组与1.00%组相比,料重比分别提高了13.24%($P<0.01$)、4.24%($P>0.05$)、11.32%($P<0.01$);平均日增重分别降低了15.82%($P<0.01$)、4.55%($P>0.05$)、9.74%($P<0.01$)。2)阉公猪和母猪,1.00%组平均日增重均显著高于0.90%和1.20%组($P<0.05$),1.00%组平均日采食量均显著高于1.20%组($P<0.05$);阉公猪,1.00%组料重比显著低于0.90%和1.20%组($P<0.05$);母猪,料重比各组间差异不显著($P>0.05$)。3)所有试验仔猪和其中母猪,1.00%组血清尿素氮含量显著低于1.20%组($P<0.05$);所有试验仔猪和其中阉公猪、母猪,血清总蛋白含量各组间均差异不显著($P>0.05$)。由结果可知,杜×鲁烟白杂交断奶仔猪(10~20 kg)可消化赖氨酸需要量为1.00%,性别因素对可消化赖氨酸需要量没有显著影响。

关键词: 杜×鲁烟白猪 断奶仔猪 可消化赖氨酸

Abstract: The purpose of this test was to study the digestible lysine requirement for Duroc?Luyan White hybrid weaner piglets. Firstly, six Duroc?Luyan White piglets with an average body weight of (35.00±1.25) kg were selected, and according to the variety of experiment materials, 7 kinds of semi-purified dietary were formulated, which used to determine the ileal apparent amino acid digestibility of feeds by digestion experiment. Secondly, a total of 120 Duroc?Luyan White hybrid weaner piglets (half barrows and half sows) at (35±2) days of age with an average initial body weight of (9.13±1.61) kg were used in this test. According to the results of previous test and the dietary digestible lysine levels (0.90%, 1.00%, 1.10% and 1.20%), the piglets were divided into 4 groups, and each group had 6 replicates (3 barrows sties and 3 sow sties) with 5 piglets each. The results showed as follows: 1) for all experimental piglets, compared with 1.00% group, the feed/gain (F/G) in 0.90%, 1.10% and 1.20% groups was increased by 3.24% ($P<0.01$), 4.24% ($P>0.05$) and 11.32% ($P<0.01$), and average daily gain (ADG) was decreased by 15.82% ($P<0.01$), 4.55% ($P>0.05$) and 9.74% ($P<0.01$). 2) For barrows and sows, compared with 0.90% and 1.20% groups, ADG in 1.00% group was significantly increased ($P<0.05$). Compared with 1.20% group, average daily feed intake (ADFI) in 1.00% group was significantly increased ($P<0.05$). For barrows, the F/G in 1.00% group was lower than that in 0.90% and 1.20% groups, but there was no significant difference for sows ($P>0.05$). 3) For all experimental piglets and sows, serum urea nitrogen content in 1.00% group was significantly lower than that in 1.20% group ($P<0.05$). For all experimental piglets, barrows and sows, the plasma total protein content had no significant difference among all groups ($P>0.05$). The results show that the digestible lysine requirement for Duroc?Luyan White hybrid weaner piglets (10 to 20 kg) is 1.00%, and sex factor has no significant effect on digestible lysine requirement.

Keywords: Duroc?Luyan White pigs, weaner piglets, digestible lysine

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