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复合多肽对早期断奶仔猪生长性能、血液理化指标和肠道主要菌群数量的影响

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Effects of Complex Polypeptide on Growth Performance, Blood Physiological and Chemical Parameters and Intestinal Main Microbial Flora Number in Early-Weaner Piglets

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摘要 本试验旨在探究复合多肽对早期断奶仔猪生长性能、血液理化指标和肠道主要菌群数量的影响。将90头21日龄断奶的"杜×长×大"三元杂交仔猪按体重相近、公母各占1/2的原则随机分为3组,每组3个重复,每个重复10头猪。对照组饲喂基础饲粮,试验组分别在基础饲粮中添加0.5%和1.0%的复合多肽,试验期30 d。在试验的第30天测定断奶仔猪的各项生长性能指标、血液中各项理化指标以及肠道菌群数量。结果表明:与对照组相比,饲粮中添加0.5%和1.0%的复合多肽均可以增加断奶仔猪的平均日增重和平均日采食量,降低料重比,但差异不显著($P>0.05$);饲粮中添加0.5%的复合多肽显著提高血清总抗氧化能力($P<0.05$),添加1.0%的复合多肽显著降低血清一氧化氮含量($P<0.05$);饲粮中添加0.5%和1.0%的复合多肽均可以在一定程度上提高血清免疫指标,且1.0%的添加水平能显著提高血清白细胞介素-2、甲状腺素、胰岛素和胃泌素的含量($P<0.05$);饲粮中添加0.5%的复合多肽可以显著降低肠道中大肠杆菌数量,提高乳酸杆菌的数量($P<0.05$)。由此可见,饲粮中添加0.5%和1.0%的复合多肽均可以在一定程度上提高断奶仔猪生长性能以及抗氧化能力,提高血清中各项免疫指标以及激素含量,并且添加0.5%的复合多肽能显著提高肠道中乳酸杆菌数量,降低大肠杆菌数量。

关键词: 复合多肽 断奶仔猪 生长性能 肠道菌群

Abstract: This study was to investigate the effects of complex polypeptide on growth performance, physiological and chemical parameters in blood and intestinal main microbial flora unmber in early-weaner piglets. Ninety 21-day-old weaner piglets with similar average body weight were randomly allocated to 3 groups with 3 replicates per group and 10 piglets per replicate. The control group was fed a basal diet and the experimental groups were fed the basal diets supplemented with 0.5% and 1.0% complex polypeptide, respectively. The experiment period was 30 days. The results showed as follows: compared with the control group, the supplementation of 0.5% and 1.0% complex polypeptide could improve average daily gain and average daily feed intake, and decrease feed/gain in the experiment period ($P>0.05$). The supplementation of 0.5% complex polypeptide significantly increased the total antioxidant capacity ($P<0.05$), and the supplementation of 1.0% complex polypeptide significantly decreased the content of nitric oxide in serum ($P<0.05$). Addition of 0.5% and 1.0% complex polypeptide could increase serum immune indices to different extents, and the supplementation of 1.0% complex polypeptide significantly increased the contents of interleukin-2, thyroxine, insulin and gastrin in serum ($P<0.05$). The supplementation of 0.5% complex polypeptide significantly increased the number of *Lactobacillus* and significantly decreased the number of *Escherichia coli* in intestinal tract ($P<0.05$). In conclusion, supplementation of 0.5% and 1.0% complex polypeptide in diets improves growth performance, antioxidant ability, immune indices and hormone indices in serum, and the supplementation of 0.5% complex polypeptide increases the number of *Lactobacillus* and decreases the number of *Escherichia coli* in intestinal tract.

Keywords: complex polypeptide, early-weaner piglets, growth performance, intestinal microbial flora

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