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益生菌对断奶仔猪生长性能、免疫器官指数及胃肠道pH的影响

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Effects of Probiotics on Growth Performance, Immune Organ Indexes and Gastrointestinal pH of Weaner Piglets

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摘要 本试验旨在研究益生菌(植物乳杆菌、枯草芽孢杆菌及其复合菌)对断奶仔猪生长性能、免疫器官指数及胃肠道pH的影响。选择128头断奶仔猪分为4个组,即对照组(CT)、植物乳杆菌组(LB)、枯草芽孢杆菌组(BS)及复合菌组(LBS),每个组4个重复,每个重复8头仔猪,试验期为35 d。结果显示:1)在试验的前2周,各组断奶仔猪的平均日增重无显著差异($P>0.05$),但植物乳杆菌组、枯草芽孢杆菌组和复合菌组平均日采食量和料重比分别比对照组降低了23.27%、20.61%、15.39%和24.75%、24.75%、23.23%($P<0.05$);在试验3~5周,各组断奶仔猪平均日增重、平均日采食量和料重比差异不显著($P>0.05$)。2)复合菌组在试验的前2周肝脏指数比对照组显著提高了13.75%($P<0.05$),胃、十二指肠的pH分别比对照组显著降低了33.93%和16.5%($P<0.05$)。由此可见,益生菌在仔猪断奶的前期具有改善仔猪生长性能、节约饲料成本、维持肠道健康的作用,但在随着断奶以后时间的推移,其作用效果减弱。

关键词: 断奶仔猪 益生菌 生长性能 免疫器官指数

Abstract: This experiment was conducted to study the effects of probiotics (*Lactobacillus plantarum*, *Bacillus subtilis* and their complex-probiotics) on growth performance, immune organ indexes and gastrointestinal pH of weaner piglets. A total of 128 weaner piglets were divided into 4 groups with 4 replicates per group and 8 piglets per replicate. The 4 groups were control group (CT), *Lactobacillus plantarum* group (LB), *Bacillus subtilis* group (BS) and complex-probiotics group (LBS), respectively. The experiment lasted for 35 days. The results showed as follows: 1) in the first 2 weeks of experiment, there was no significant difference in average daily gain of weaner piglets among all groups ($P>0.05$), however, compared with CT, the average daily feed intake and the ratio of feed to gain in LB, BS and LBS were significantly decreased by 23.27%, 20.61%, 15.39% and 24.75%, 24.75%, 23.23% ($P<0.05$), respectively. In the 3 to 5 weeks of experiment, there was no significant difference in average daily gain, average daily feed intake and the ratio of feed to gain of weaner piglets among all groups ($P>0.05$). 2) In the first 2 weeks of experiment, compared with CT, the liver index in LBS was significantly increased by 13.75% ($P<0.05$), the pH of stomach and duodenum was significantly decreased by 33.93% and 16.5% ($P<0.05$), respectively. It is concluded that probiotics can improve the growth performance, reduce feed cost and maintain healthy of weaner piglets during the early period, however, the effects will be weakened as the time go on.

Keywords: weaner piglets, probiotics, growth performance, immune organ indexes

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