

兽医—应用研究

魔芋甘露寡糖对三黄鸡免疫功能及盲肠菌群的影响

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摘要:

为探明甘露寡糖对三黄鸡免疫功能和盲肠菌群的影响及替代抗生素的可行性,选用1日龄三黄鸡216只,随机分为6组,每组3个重复,每重复12只鸡,分别饲喂6种不同日粮,自由采食和饮水,第I组为空白对照组,第II, III, IV, V, VI组为试验组,在基础日粮的基础上分别添加600 mg/kg林可霉素, 1 g/kg甘露寡糖, 2 g/kg甘露寡糖, 4 g/kg甘露寡糖和8 g/kg甘露寡糖。结果表明: (1) 添加4 g/kg甘露寡糖, 可显著提高胸腺指数(P<0.05), 有提高脾脏和法氏囊指数的趋势, 但差异不显著(P>0.05); (2) 饲料中添加600 mg/kg林可霉素或4 g/kg甘露寡糖, 均能显著提高血清溶菌酶活性(P<0.05), 而8 g/kg甘露寡糖组血清新城疫抗体滴度均显著高于对照组和林可霉素组(P<0.05); (3) 添加甘露寡糖, 可显著提高盲肠乳酸杆菌的数量, 降低沙门氏菌的数量(P<0.05), 大肠杆菌的数量有增加的趋势但差异不明显(P>0.05); (4) 甘露寡糖可替代林可霉素在三黄鸡养殖中的应用。

关键词: 盲肠菌群

Effects of Konjac Mannose-oligosaccharides in Diets on Immunity Function and Mecum Microflora of Three-yellow Broilers

Abstract:

To study the effects of konjac mannose-oligosaccharides in diet on th immunity function and mecum microflora of three-yellow broilers and the possibility of substitutes for antibiotics, two hundred sixteen one-day three-yellow broilers are divided randomly into 6 treatments with three replicates. There are twelve broilers per replicate with feed and water provided ad libitum. The basic diet of the six groups is the same and treatments are as follows :control (no MOS and no lincomycin), 600 mg/kg lincomycin, 1 g/kg MOS, 2 g/ kg MOS, 4 g/ kg MOS and 8 g/kg MOS. The results show: (1) 4 g/kg MOS level of the diet significantly improves the index of thymus (P<0.05), and has a tendency of increasing the index of spleen and bursa but not significantly(P>0.05); (2) 600 mg/kg lincomycin and 4 g/kg MOS of the diet both increase serum lysozyme level significantly(P<0.05), however 8 g/kg MOS of the diet has the higher serum antibody titres to New castle disease virus than the control group and lincomycin group (P<0.05); (3) Compared to the control group, MOS significantly increases the concentration of lactobacillus and decreases the number of salmonellae(P<0.05), in addition the number of E. coli has a higher tendency but not significantly(P>0.05); (4) MOS can substitute for the lincomycin in the three-yellow broilers feeding.

Keywords: mecum microflora

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甘露寡糖在肉鸡养殖中的应用

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参考文献【1】李路胜,周响艳.甘露聚糖酶对肉鸡肠道微生物和免疫机能的影响[J].饲料工业,2010,31(6):15-18.【2】Grieshop C M, Flickinger E A, Bruce K J, et al. Gastrointestinal and immunological responses of senior dogs to chicory and mannan - oligosaccharides[J]. Archives of Animal Nutrition, 2004, 58(6):483-493.【3】宋智娟,张艳铭,廖智慧.β-甘露聚糖酶对肉鸡肠道内微生物菌群及pH值的影响[J].饲料工业,2007,28(22):14-17.【4】李振,李萍.蛋白质营养与家禽免疫[J].中国饲料,2002(18):22-23.【5】宋智娟,张艳铭,季妍.β-甘露聚糖酶对肉鸡免疫机能的影响[J].饲料工业,2008,29(14):37-40.【6】马志红,张庆波,史相国,等.甘露寡糖对免疫低下小鼠免疫功能的影响[J].安徽农业科学,2009,37(16):7462-7463.【7】袁纛,闫际平,陈立华,等.不同寡糖对肉仔鸡肠道主要菌群和免疫器官指数的影响[J].中国饲料,2007(15):15-17.【8】Peter Spring. 酵母细胞壁在家禽营养中的作用[J].饲料工业,2001,22(11):48-50.【9】周映华,张石蕊.甘露寡糖对肉鸡生产性能和肠道微生物以及免疫机能的影响[J].湖南农业大学学报,2003,29(3):250-253.【10】周淑琴.不同抗生素替代品控制肉鸡大肠杆菌感染的效果[J].畜牧与兽医,2001,41(11):87-88.【11】于桂阳,张昊,郑春芳.甘露寡糖对肉鸡肠道微生物的影响[J].兽药与饲料添加剂,2004,9(5):7-9.【12】Stanley V G, Chukwu H, Gray C, et al. Effects of lactosanBio-MOS in dietary application on growth and total coliform bacteria reduction in broiler chicks [J]. Poultry Sci. 1996, 75(11): 61.

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