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玉米脱水酒精糟及其可溶物和复合酶制剂对生长育肥猪生产性能和氮、磷消化率的影响

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Effects of Corn Distillers Dried Grains with Solubles and Compound Enzyme Preparation Supplementation on Performance and Digestibility of Nitrogen and Phosphorus in Growing-finishing Pigs

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摘要 本试验旨在探讨生长育肥猪饲粮中添加玉米脱水酒精糟及其可溶物（DDGS）和复合酶制剂对生长育肥猪生产性能和氮、磷代谢的影响。试验选用200头70日龄杜×长×大三元杂交商品猪，根据体重和性别随机分成4个处理，每个处理5个重复，每个重复10头猪，分2阶段饲养（生长期和育肥期）。对照组饲喂玉米-豆粕型饲粮，试验1组、试验2组和试验3组在生长期和育肥期饲料中分别用10%和15%的玉米DDGS替代部分玉米和豆粕，其中试验2组和试验3组添加200 g/t的复合酶制剂，试验3组的饲粮能量水平较前3组降低0.209 MJ/kg。结果显示，饲料中添加玉米DDGS，对生长育肥猪生产性能没有显著影响（P>0.05），粪氮含量显著提高（P<0.05），氮消化率显著降低（P<0.05），而粪磷含量显著降低(P<0.05)。添加复合酶制剂在一定程度上提高了生长育肥猪生产性能和磷消化率（P>0.05），能量降低则显著提高了氮消化率（P<0.05）。由此可知，适量添加玉米DDGS对生产性能没有负面影响，降低了饲料氮利用率，但提高了磷利用率。而辅以复合酶制剂则可在一定程度上提高动物对玉米DDGS的利用效率，提高生长育肥猪的生产性能和饲料磷消化率。

关键词：**玉米脱水酒精糟及其可溶物;复合酶制剂;生长育肥猪;生产性能;氮、磷消化率**

Abstract： The experiment was conducted to investigate the effects of corn distillers dried grains with solubles (DDGS) and compound enzyme preparation supplementation on performance and metabolism of nitrogen and phosphorus in growing-finishing pigs. Two hundred commercial pigs (Duroc×Landrace×Yorkshire) aged 70 d were randomly allotted to one of four dietary treatments (5 replicates each treatment, and 10 pigs each replicate) on the basis of body weight and gender. And the pigs were fed by two-stage feeding (growing stage and finishing stage). The control group was fed a basal corn-soybean meal diet. Treatments 1, 2 and 3 were fed corn-soybean meal diet, with 10% corn DDGS in growing stage and 15% in finishing stage, respectively. The diets of treatments 2 and 3 were supplemented with 200 g/t compound enzyme preparation and the energy level of treatment 3 was reduced by 0.209 MJ/kg. The results showed that corn DDGS supplementation to feed had no significant effect on performance of growing-finishing pigs (P>0.05); and fecal nitrogen (N) content was significantly increased (P<0.05); N digestibility was significantly reduced (P<0.05); fecal phosphorus (P) content was significantly decreased (P<0.05). The allzyme supplementation increased performance and P digestibility of growing-finishing pigs to some degree (P>0.05). Energy reduction significantly increased N digestibility (P<0.05). In conclusion, appropriates corn DDGS supplementation had no negative effect on performance of growing-finishing pigs. Corn DDGS decreased N digestibility but increased P digestibility in feed. The compound enzyme preparation supplementation could improve the availability of the corn DDGS and increase performance and P digestibility of growing-finishing pigs. [Chinese Journal of Animal Nutrition, 2010 , 22 (3) :750-756]

Keywords： **Corn distillers dried grains with solubles; Allzyme; Growing-finishing pigs; Performance; Nitrogen and phosphorus digestibility**

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