

基于摄入养分含量预测猪新鲜粪便肥料成分含量的试验研究

Experimental study on estimating fertilizer value of raw swine slurries based on nutrients intake

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中文摘要:

试验旨在建立基于摄入养分含量的数学模型, 用来预测猪粪便肥料成分含量。通过饲养试验得到摄入养分含量和猪粪便中肥料成分含量的实测数据, 对其进行统计分析。由方差分析得出: 不同的日粮水平对粪中、尿中和粪尿混合物中总氮含量影响显著, 对尿中和粪尿混合物中钾含量影响显著, 对磷和铵态氮的含量影响均不显著; 不同日粮水平对粪中磷的百分含量的影响显著。由回归分析得到: 利用摄入粗蛋白的量可预测粪、尿和粪尿混合物中总氮的含量; 利用摄入钾的量可预测尿中和粪尿混合物中钾的含量; 利用摄入磷的量可预测粪中磷的百分含量。

英文摘要:

This experiment is aimed at developing a mathematical model in order to estimate fertilizer value of raw swine slurries based on nutrients intake. Data of nutrient contents in diets and in slurries were obtained by feeding experiment and analyzed. One-way ANOVA analytical results of the experiment show that the effects of different diets on the content of total nitrogen in pig feces, urine and manures are significantly different; the effects of different diets on the content of potassium in pig urine and manures are significantly different; the effects of different diets on the content of phosphorus and ammoniacal nitrogen in pig slurries are not significantly different; the effects of different diets on the percent of phosphorus in pig feces are significantly different. The results of linear regression analysis show that crude protein intake can be evaluated for estimating the content of total nitrogen in pig feces, in pig urine and in pig manures; potassium intake can be evaluated for estimating the content of potassium in pig urine and in pig manures; phosphorus intake can be evaluated for estimating the percent of phosphorus in pig feces.

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