不同pH淋溶液对猪粪中不同指标溶出的影响

Effect of leaching solution at different pH on indexes in swine feces

投稿时间：2006-4-16 最后修改时间：2006-11-2

稿件编号：20061448

中文关键词：猪粪；淋溶；释放；pH值

英文关键词：swine manure; leaching; release; pH value

基金项目：

作者	单位
史金才	（1982－），男，江苏溧阳人，主要从事家畜生态方面研究
廖新俤	华南农业大学动物科学学院,广州 510642
吴银宝	华南农业大学动物科学学院,广州 510642

中文摘要：

该文研究猪粪在酸雨条件下释放污染物的规律，分析释放物的环境危害性。试验配置pH值为3.60、4.80和5.60的淋溶液，模拟广东省内的酸雨降水环境，对新鲜猪粪进行24d的淋浴，然后对各组淋出液和猪粪残留化学成分进行分析，得出不同pH值淋溶下污染物重金属铜、锌、砷和氨氮、总磷、CODGr等时间－浓度曲线。结果表明，新鲜猪粪在酸性淋溶下，其渗滤液的pH有所降低，在24d淋溶过程中渗滤液重金属（Zn、Cu、As）的浓度总体上呈下降趋势，以pH4.8时滤出重金属的速度较pH3.6、5.6快；COD、氨氮早期溶出较快，以后逐步减缓。新鲜猪粪经酸性淋溶后，渗滤液中铜、砷以及COD、总磷、氨氮含量均显著增加。因此对即使临时堆放亦需采取措施，以防止因雨水等导致的渗滤液污染。

英文摘要：

This paper studied the pollutants released from swine manure on open ground under leaching of acid rain, analysed environmental harm of the release. Simulation tests were carried out under Guangdong acid rain condition, using pH 3.60, 4.80 and 5.60 of the leaching solution, showering for 24 days for fresh pig manure.Experiment results showed that heavy metal of Cu, Zn, As,ammonia, total phosphorus, and COD were formd in pollutamts,and their time-concentration curves were plotted. The results show that after acid rain leaching the pH of swine feces lower than that of fresh swine manure,and during the 24 days the concentration of Cu, Zn and As in leached swine feces showed decline trend, the leaching rate of heavy metal in the treatment of pH4.8 was faster than that in treatment of pH 3.6 and 5.6; COD and ammonia leaching rates were fast at start, then it slowed down. After acid rain leaching all concentrations of copper, arsenic, COD,total phosphorus, and ammonia in swine feces were over the relevant environmental standards. So it is necessary to take measures to prevent fresh swine manure from leaching.

查看全文 关闭 下载PDF阅读器