

酒糟型生物有机肥初始酵解条件对氮素损失的影响

喻夜兰, 刘强, 荣湘民, 谢桂先, 彭建伟, 曾晶, 宋海星, 张玉平

湖南农业大学资源环境学院, 湖南长沙 410128

Effects of original zymolytic conditions on nitrogen loss of brewer's spent grains-based bio-organic fertilizer

YU Ye-lan, LIU Qiang, RONG Xiang-min, XIE Gui-xian, PENG Jian-wei, ZENG Jing, SONG Hai-xing, ZHANG Yu-ping*

College of Resource and Environmental Science, Hunan Agricultural University, Changsha 410128, China

[摘要](#)[参考文献](#)[相关文章](#)Download: [PDF \(856KB\)](#) [HTML 1KB](#) Export: [BibTeX](#) or [EndNote \(RIS\)](#) [Supporting Info](#)

摘要 试验应用二次通用回归旋转组合设计四因素(1/2实施)方案,研究酒糟型生物有机肥堆制初始条件对氮素损失率的影响,以期为有效控制氮素损失提供理论依据。结果表明,各因素对氮素损失率的影响大小顺序是: pH值>接种量>秸糟比>含水量;当pH值、接种量的编码值为-1.68,含水量、秸糟比的编码值为1.68时,氮素损失率最小,为8.4164%。四个因子间存在着交互作用,且作用方向是正向的,其中pH值与含水量、接种量与秸糟比间的交互作用不显著。在本试验条件下,控制氮素损失率的最优方案是: pH值6.3980~6.4186、接种量0.3991%~0.4031%、含水量64.7014%~64.8285%、秸糟比40.9326%~41.0956%。

关键词: 酒糟型生物有机肥 酵解条件 氮素损失

Abstract: An experiment was conducted to study the effects of original zymolytic conditions on nitrogen loss of brewer's spent grains-based bio-organic fertilizer by using the quadratic uniform-precision rotatable central composite design including four factors and five levels. The result shows that the order of each factor's influence to nitrogen loss is: pH value > inoculation fungal biomass > ratio of straw to lee > water content. There are positive interactions between the four factors and the interactions between pH value and water content and between inoculation fungal biomass and ratio of straw to lee are not significantly different. In this experiment, the suitable ranges of pH value, inoculation fungal biomass, water content and ratio of straw to lee are: 6.398-6.4186, 0.3991%-0.4031%, 64.7014%-64.8285% and 40.9326%-41.0956%, respectively.

Keywords: brewer's spent grains-based bio-organic fertilizer; original zymolytic condition nitrogen loss

Received 2009-06-29;

Fund:

国家重点基础研究发展计划(2007CB109302); 农业公益性行业科研专项(200803030); 国家科技支撑计划项目(2006BAD25B02)资助。

引用本文:

喻夜兰, 刘强, 荣湘民, 谢桂先, 彭建伟, 曾晶, 宋海星, 张玉平. 酒糟型生物有机肥初始酵解条件对氮素损失的影响[J] 植物营养与肥科学报, 2010, V16(1): 219-224

YU Ye-Lan, LIU Qiang, RONG Xiang-Min, XIE Gui-Xian, PENG Jian-Wei, ZENG Jing, SONG Hai-Xing, ZHANG Yu-Ping. Effects of original zymolytic conditions on nitrogen loss of brewer's spent grains-based bio-organic fertilizer[J] Acta Metallurgica Sinica, 2010, V16(1): 219-224

Service

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [Email Alert](#)
- ▶ [RSS](#)

作者相关文章

- ▶ [喻夜兰](#)
- ▶ [刘强](#)
- ▶ [荣湘民](#)
- ▶ [谢桂先](#)
- ▶ [彭建伟](#)
- ▶ [曾晶](#)
- ▶ [宋海星](#)
- ▶ [张玉平](#)