

农村发展—生态资源环境

肥料施用的环境效益评估方法及应用——以不同认证管理的梨园肥料施用为例

刘月仙

北京市农林科学院农业科技信息研究所

摘要:

本研究以不同认证管理的梨园(绿色认证、有机认证的梨园)为对象,通过查阅相关文献,运用相关的方法量化肥料施用产生的温室气体和能源的消耗,对不同认证管理的梨园肥料施用引起的环境效益进行分析和比较。案例研究表明,运用不同的方法量化肥料施用的能源消耗,取得的结果完全不同,说明方法选择的重要性以及适用性;比较3种不同认证管理的梨园肥料施用的温室气体排放,有机梨园则比绿色认证管理的梨园和常规梨园排放量少,而有机梨园施入的有机肥氮对梨园造成环境负荷的风险则较高。

关键词: 能源消耗

Analysis of Environmental Impacts of the Application of Fertilizers in Different Pear Production Systems

Abstract:

The objective of this study was to evaluate the differences in the greenhouse gas emissions and energy use of fertilizers applied between the production of certified organic pear, green food certified pear, and conventional pear in two areas in China. Data were collected from interviews with farmers during 2007 and 2008. Three calculation methods for energy value of manure had been found in the literature: substitution method, by-product method, and thermal method. The choice of various calculation methods for estimating the energy value of manure turned out to have great influence on the results in terms of energy use of fertilizers applied in different pear production systems. The greenhouse gas emissions were lowest from fertilizers applied in certified organic pear production, whereas the environment burden was highest in certified organic pear production system. Possible explanations for these differences were discussed.

Keywords: energy use

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通讯作者: 刘月仙

作者简介:

作者Email: liuyx@agri.ac.cn

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