

蔬菜残株、生物菌肥施用下日光温室辣椒土壤微生物学特征

张志刚, 董春娟, 高苹, 尚庆茂*

中国农业科学院蔬菜花卉研究所, 北京 100081

Soil microbiologic characteristics under vegetable residues and bacterial manure application in greenhouse

ZHANG Zhi-gang, SHANG Qing-mao, DONG Chun-juan**

Institute of Vegetables and Flowers, Chinese Academy of Agricultural Sciences, Beijing 100081, China

摘要

参考文献

相关文章

Download: [PDF \(956KB\)](#) | [HTML 1KB](#) | Export: [BibTeX](#) or [EndNote \(RIS\)](#) | [Supporting Info](#)

摘要 为了明确蔬菜残株、生物菌肥对日光温室土壤的改良作用, 测定了土壤微生物群落功能多样性、酶活性及速效养分含量等指标。结果表明, 与对照 (未施用蔬菜残株、生物菌肥) 相比, 蔬菜残株、生物菌肥单一施用均提高土壤微生物群落Shannon、Simpson和McIntosh指数, 蔬菜残株的作用大于生物菌肥, 且随蔬菜残株施用量的增加促进作用增强。高量蔬菜残株 (45000 kg/hm²) 处理的McIntosh指数比低量蔬菜残株 (22500 kg/hm²)、生物菌肥 (75 kg/hm²) 和对照分别增加26.29%、37.87%、49.36%。低量蔬菜残株与生物菌肥对土壤酶活性、速效养分含量的提高有明显的协同作用: 低量蔬菜残株与生物菌肥共同处理的土壤磷酸酶活性分别比单一低量蔬菜残株、生物菌肥处理增加40.35%、82.82%, 有机质含量分别升高19.28%、41.94%, 速效钾含量增加20.57%、92.97%。

关键词: 辣椒土壤 蔬菜残株 生物菌肥 土壤微生物学特征

Abstract: Functional diversity of microbial communities, enzyme activity and available nutrients of soil were determined to study the improving effects of vegetable residues and bacterial mature on soil in greenhouse. The improving effect of single vegetable residues is larger than that of single bacterial mature, and the better the improving effect, the more vegetable residues. The McIntosh index of vegetable residues with high applying quantity is increased by 26.29%, 37.87% and 49.36% compared with the treatments of vegetable residues in low applying quantity, bacterial manure and the control (without vegetable residues and bacterial manure), respectively. Vegetable residues with low applying quantity and bacterial manure has distinctly synergistic effect in increasing enzyme activity and soil available nutrients. Compared with the treatments of vegetable residues in low applying quantity and bacterial manure, the phosphatase activity, organic matter and available potassium contents of vegetable residues with low applying quantity and bacterial mature mixture treatment are increased by 40.35%–82.82%, 19.28%–41.94% and 20.57–92.97%, respectively.

Keywords: soil of pepper cultivation vegetable residues bacterial manure soil microbiologic characteristics

Received 2010-10-09; published 2011-03-31

Fund:

国家级项目

Corresponding Authors: 张志刚 Email: zhangzhigang75@yahoo.com.cn

引用本文:

张志刚 董春娟 高苹 尚庆茂. 蔬菜残株、生物菌肥施用下日光温室辣椒土壤微生物学特征[J] 植物营养与肥料学报, 2011, V17(3): 710-717

ZHANG Zhi-gang SHANG Qing-mao DONG Chun-juan. Soil microbiologic characteristics under vegetable residues and bacterial manure application in greenhouse [J] Acta Metallurgica Sinica, 2011, V17(3): 710-717

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

- ▶ [张志刚](#)
- ▶ [尚庆茂](#)
- ▶ [董春娟](#)