　　　　　　　　[打印本页]　[关闭]

园艺园林科学

北京果园土壤营养状况和微生物种群调查分析

张强[1],魏钦平[2]

1. 北京林果所
2. 北京市农林科学院林业果树研究所

摘要：

为了探明北京地区主要果树的肥力水平，应用田间土壤取样方法，对苹果、梨、桃和葡萄三种不同产量品质水平(高、中、低)果园的土壤理化性状、营养水平和微生物种群数量进行分析。结果表明：土壤容重1.06～1.60 g.cm-3，不同树种差异不显著；土壤阳离子交换量(CEC)81.47～238.83 mmol.kg-1，苹果、桃、葡萄园显著高于梨园，同一树种的高(H)、中(M)型果园均高于低(L)型园；土壤pH在7.39～8.55间；有机质含量7.34～19.50 g.kg-1，不同树种差异不显著，同一树种的H园高于M、L园；全氮0.41～1.09 g.kg-1，苹果、桃和葡萄园显著高于梨园，同一树种H园高于M、L园；速效磷14.54～185.50 mg.kg-1，速效钾99.77～267.50 mg.kg-1，不同树种及不同类型果园间差异均不显著；有效铁、锌和硼含量分别为4.78～33.42mg.kg-1、0.97～10.54mg.kg-1、0.19～0.58mg.kg-1。四种果园的土壤微生物总量为0.45×107～1.23×107cfu.g-1，苹果园最高，梨园最低；细菌数量占绝对优势，放线菌次之，真菌最少。不同树种果园土壤营养水平(Pi)顺序为苹果(0.71)＞葡萄(0.58)＞桃(0.54)＞梨(0.31)，同一树种为H＞M＞L。综合分析，北京果园土壤营养和微生物种群总体状况为土壤pH偏高，有机质和全氮缺乏，磷钾比偏高，有效硼不足，土壤微生物总量偏少等，为北京果园土壤改良提供了基本理论依据。

关键词：　果园;土壤营养;微生物种群

Survey and Analysis on Nutrient level and Microorganism Population of Orchard Soil in Beijing Region

ZHANG Qiang ZHANG Qiang,

Abstract:

In order to prove up the soil fertility level of apple, pear, peach and grape orchards in Beijing region, soil samples were collected to analyze the soil physi-chemical properties and microbial populations in three levels of yield and quality orchards (H, M, L). The results showed that soil bulk density, cation exchange capacity (CEC) and pH were 1.06～1.60 g.cm-3, 81.47～238.83 mmol.kg-1 and 7.39～8.55 respectively. Soil bulk density was no significant difference among different fruit trees, the CEC values of apple, peach and grape orchards were significantly higher than pear ones, and H and M orchards were higher than L's in the same fruit trees. Soil organic matter (SOM) was between 7.34 g.kg-1 and 19.50 g.kg-1, no significant difference among the different fruit trees, and H orchard was higher than M's and L's in the same fruit trees. Total nitrogen (N) content of all orchards were between 0.41 g.kg-1 and 1.09 g.kg-1, but apple, peach and grape orchards were significantly higher than pear's, and H orchard was higher than M's and L's in the same fruit trees. Soil available phosphorus (P) and potassium (K) were 14.54～185.50 mg.kg-1 and 99.77～267.50 mg.kg-1 respectively, no significant difference as in the different fruit trees as in the different levels orchards. The soil available iron (Fe), zinc (Zn) and boron (B) community of four fruit trees was 0.45×107～1.23×107cfu.g-1, and apple orchard's was the highest whereaswere 4.78～33.42mg.kg-1, 0.97～10.54mg.kg-1 and 0.19～0.58mg.kg-1 respectively. Total quantity of community of four fruit trees was 0.45×107～1.23×107cfu.g-1, and apple orchard's was the highest whereas the pear's was the lowest. The quantity of bacteria was absolutely superiority, actinomyces' followed, fungi' was the least. Soil nutrient index (Pi) of apple, grape, peach and pear were 0.71, 0.58, 0.54 and 0.31 respectively. The order of Pi in the same fruit trees was H＞M＞L. Synthetically analyzed, the results were that soil nutrient level and microorganism population of orchards were high pH, low SOM andtotal N, high ratio of P/K, lack of available B, less quantity of soil microorganisms in Beijing region. The basic theory of soil improvement was provided for Beijing orchards.

Keywords: Orchard　Soil Nutrient　Microorganism Population

扩展功能

本文信息
- Supporting info
- PDF(672KB)
- [HTML全文]
- 参考文献[PDF]
- 参考文献

服务与反馈
- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- 引用本文
- Email Alert
- 文章反馈
- 浏览反馈信息

本文关键词相关文章
- 果园;土壤营养;微生物种群

本文作者相关文章
- 张强
- 魏钦平

PubMed
- Article by Zhang,j
- Article by Wei,Q.B

通讯作者: 张强

作者简介:

作者Email:

参考文献：

本刊中的类似文章

文章评论

反馈人		邮箱地址	
反馈标题		验证码	0712
反馈内			