

农业基础科学

怀山药根际土壤微生物、酶活性和酚酸物质变化及其关系研究

乔卿梅, 程茂高, 王新民, 魏志华

- 1.
2. 郑州牧业工程高等专科学校

摘要:

对不同生育期怀山药根际土壤微生物数量、土壤酶活性及酚酸物质的变化及其交互作用进行研究。结果表明: 怀山药在其生长发育过程中, 根际土壤中酚酸物质的含量和土壤细菌、放线菌、真菌数量均呈显著升高趋势, 且根茎膨大速度越快时上升趋势越明显; 根际细菌绝对数量一直占根际土壤微生物的80%左右, 并呈增长趋势; 过氧化氢酶、多酚氧化酶、蛋白酶活性逐渐增强, 蔗糖酶、磷酸酶、脲酶活性呈下降趋势; 根际土壤中酚酸物质的含量与根际土壤中微生物的含量和多数土壤酶活性呈显著相关性。

关键词: 怀山药 根际微生物 土壤酶活性 酚酸

Study On The Change Of Microbial Quantity, Enzyme Activity And Phenolic Acids In *Rehmannia glutinosa* Rhizosphere Soil

Abstract:

This paper studied the variations of phenolic acids contents, microbes flora and enzyme activity in yam *Rehmannia glutinosa* rhizosphere soil and their relations. The results showed that the content of phenolic acids and the numbers of fungi, bacteria, actinomycetes had a prominent increase with the yam growing development. The more fast of rootstalk growing rate, the more distinct of increase tendency. While the number of bacteria in yam rhizosphere soil were about 80% all the time, and showed increase tendency. The enzyme activity of catalase, polyphenol oxidase, protease in rhizosphere showed increase tendency, and the variation of enzyme activity in sucrase, phosphatase, urease were contrary. The content of rhizosphere phenolic acids presented a prominent pertinence with the numbers of fungi, bacteria, actinomycetes and the enzyme activity of catalase, polyphenol oxidase, protease, phosphatase, urease in rhizosphere soil.

Keywords: *Rehmannia glutinosa* rhizosphere microbe soil enzyme activity phenolic acids

收稿日期 2009-08-24 修回日期 2009-09-28 网络版发布日期 2009-12-20

DOI:

基金项目:

河南杰出青年科学基金; 国家第四十一批博士后科学基金

通讯作者: 程茂高

作者简介:

作者Email: mgcheng@sohu.com

参考文献:

本刊中的类似文章

1. 唐君, 赵冬兰, 张允刚. NAA和几种细胞分裂素对怀山药离体快繁的影响[J]. 中国农学通报, 2005, 21(12): 83-83

扩展功能

本文信息

- Supporting info
- PDF (527KB)
- [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

- 怀山药
- 根际微生物
- 土壤酶活性
- 酚酸

本文作者相关文章

- 乔卿梅
- 程茂高
- 王新民
- 魏志华

PubMed

- Article by Qiao, Q.M
- Article by Cheng, M.G
- Article by Yu, X.M
- Article by Wei, Z.H

