

植物保护—应用研究

甘蔗健康种苗宿根矮化病的荧光定量PCR检测

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摘要:

通过对甘蔗健康种苗宿根矮化病的荧光定量PCR检测技术的研究, 建立和完善检测甘蔗健康种苗体内甘蔗宿根矮化病病原的实时PCR技术体系。选择经蔗汁检测宿根矮化病呈阳性的6株‘新台糖22号’甘蔗, 经甘蔗健康种苗生产程序, 获得健康种苗组培苗, 利用实时荧光PCR技术检测甘蔗宿根矮化病病原菌基因在组培苗样本中的表达水平。实时荧光定量PCR检测结果为: 10个不同处理的组培苗样本的PCR产物电泳检测未出现目的条带, 10个样本的平均Ct值在37~39之间, 甘蔗宿根矮化病病原菌基因在10个样本中不表达。10个健康种苗样本中不携带甘蔗宿根矮化病原菌, 利用甘蔗健康种苗生产技术能够比较彻底地去除甘蔗宿根矮化病病原菌。

关键词: 荧光定量PCR

Detection of Ratoon Stunting Disease in Virus-free Seedcane of Sugarcane by Real-time Fluorescence Quantitative PCR

Abstract:

The aims were to detect ratoon stunting disease in virus-free Seedcane of sugarcane by real-time fluorescence quantitative PCR, establish and improve the real-time PCR technology system detection of healthy seedling of sugarcane ratoon stunting disease pathogen. Six sugarcanes ‘ROC22’ with ratoon stunting disease were selected, and the virus-free seedcane by the healthy seedlings production process of sugarcane were obtained. Real-time fluorescence PCR was used to detect the ratoon stunting disease pathogen gene expression of tissue culture samples. The results showed that the gel electrophoresis of 10 different treated seedlings sample PCR products didn't have the target band, the average Ct value were from 37 to 39. Ratoon stunting disease pathogen genes did not express in 10 samples. Ten samples of healthy seedlings did not carry ratoon stunting pathogens. The Healthy seedlings in sugarcane production technology could remove the ratoon stunting disease pathogen thoroughly.

Keywords: real-time fluorescence quantitative PCR

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