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林学—研究报告

马占相思心腐病发生初期的病原鉴定

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摘要:

为了明确马占相思心腐病发生初期的病原菌种类，为病害的早期诊断和防治提供依据，笔者从广东省龙眼洞国营林场外表无症状的6年生马占相思树上采集病样36份，分离出3种担子菌，通过田间枝条接种、室内木块接种测定其致病性。结果显示，3种担子菌在6年生马占相思树1年生健康枝条上接种20天，枝条髓心变褐深度分别为5.0、2.4、7.0 cm；室内25℃下接种61天，木块腐朽质量损失分别为25.88%、31.48%、21.02%。对3种担子菌进行PCR扩增，测定核糖体DNA（rDNA）内转录间隔区（ITS）的序列，将测序结果在GenBank中进行同源性比对分析，结合形态特征，确定3种病原菌分别为Phanerochaete avellanea、Peniophora aurantiaca、Phlebia brevispora。得出结论：Phanerochaete avellanea、Peniophora aurantiaca和Phlebia brevispora具有侵染枝条和使木块腐朽的能力，是马占相思心腐病发生初期的病原菌。

关键词： 病原鉴定

Pathogen Identification for Heart-rot of Acacia mangium in the Initial Stage

Abstract:

In order to clarify the pathogen species of heart rot of Acacia mangium in the initial stage and provide the basis for the early diagnosis and prevention of the disease, the author collected 36 diseased samples from asymptomatic 6-year-old living tree of Acacia mangium from a stand at Longyandong forest farm in Guangdong Province, from which 3 species of basidiacota fungi were isolated. The pathogenicity of 3 basidiacota fungi was tested through inoculation them to 1-year-old branch on 6-year-old living tree in field and the wood block of Acacia mangium in culture dish. The results showed that the pith of branches macerated and turn brown and the average infective depth of these 3 basidiacota fungi were 5.0 cm, 2.4 cm, 7.0 cm 20 days after inoculation, and the wood weight loss were 25.88%, 31.48%, 21.02%, respectively 61 days after inoculation at 25℃. 3 basidiacota fungi were amplified by PCR technique with universal primers of fungi, and the sequences of the internal transcribed spacer of their ribosomal DNA were further compared with that in GenBank. Combined with their cultural characteristics, the 3 pathogenic fungi were Phanerochaete avllanea, Peniophora aurantiaca, and Phlebia brevispora. The conclusion was that: Phanerochaete avllanea, Peniophora aurantiaca, and Phlebia brevispora, all of them had capacities to infect the healthy branch of live tree and decay the wood blocks, and they were pathogens of heart rot of Acacia mangium in the initial stage.

Keywords: pathogen identification

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