649-1 **PCR-restriction fragment length polymorphism (PCR-RFLP) can be used for species identification from *Fusarium decemcellulare* complex**
(PCR-RFLP permite a identificação de espécies do complex *Fusarium decemcellulare*)

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Resumo

Fusarium decemcellulare (teleomorph *Albonectia rigidiuscula*) is reported as the causal agent of diseases with varied symptoms in more than 50 plant species. In Brazil guarana plant can be highlighted as species of economic importance affected by this pathogen. The disease in guarana plant (*Paullinia cupana*) is characterized by floral hypertrophy, oversprouting and galls on the stalk and is currently one of the main problems in the field. The development of a molecular method for identification can be used to avoid any confusion caused by morphological identification. Therefore this study aimed to develop a method for molecular identification by PCR-RFLP to *F. decemcellulare*. For the method development, 42 rDNA sequences of 24 species of *Fusarium* genus were aligned and restriction sites analyzed in silico. The method was validated using *F. decemcellulare* isolates from guarana plant and *F. solani* f. sp. *piperis* and *F. oxysporum* f. sp. cubense as control. Amplification was performed using the primer NL4 and ITS5 with subsequent cleavage using HaeIII. The lack of the first restriction site located in the ITS 1 region was due to the insertion of five nucleotides (GCTCG) between two cytosine generating a fragment of ~500bp in both *A. rigidiuscula* and *A. albosuccinea* and smaller fragments in other species of *Fusarium* that have at least 5 restriction sites. The results confirm the efficiency of the method developed here to identify *F. decemcellulare* by restriction polymorphism.

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