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EVALUATION OF INHIBITORY EFFECTS OF *TRICHODERMA ASPERELLUM* METABOLITES ON MYCELIAL GROWTH OF *SCLEROTINIA SCLEROTIORUM*

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Common bean (*Phaseolus vulgaris* L.) is an economically important food commodity in Brazil. However, it can suffer serious damage by white mould disease caused by the pathogen *Sclerotinia sclerotiorum*. Species of the genus *Trichoderma* can act as biocontrol agents against of this pathogen. This study describes the identification based on morphological, MALDI-TOF MS and molecular analysis of these 29 *Trichoderma* sp. isolates and their *in vitro* antagonistic behaviour against *S. sclerotiorum*. In order to evaluate the disease incidence greenhouse experiments were also performed using bean seedling. According to the results obtained, MALDI-TOF MS technique was appropriate for all *Trichoderma* species identification confirming the morphological and molecular-based identifications through analysis of rDNA ITS sequence data. *In vitro* inhibition experiments showed that 38% of *Trichoderma* isolates colonised the entire surface of the medium (grade 1 evaluation score) in dual cultures against *S. sclerotiorum*. Pathogen exposition to non-volatile metabolites produced by *Trichoderma* resulted in the inhibition of their mycelia growth between *c.a.* 83 and 100%. Moreover, 19 *Trichoderma* isolates enabled a total suppression of disease in bean seedlings when evaluated in greenhouse experiments. Two *Trichoderma* isolates identified as *Trichoderma asperellum* (CEN201 and CEN162) were responsible to the highest rates of growth promotion in bean plants, which ranged from 26 to 34%. The MALDI-TOF technique was appropriate for species designation for the majority of *Trichoderma* species, confirming most molecular-based identifications through analysis of rDNA ITS sequence data.