**Screening of Antagonistic Fungi against *Rigidoporus Microporous* Causing White Root Disease in Cinnamon**

**HAP Windula1\*, HMTT Madhurangi2 , MLMC Dissanayake1**

*1Department of Export Agriculture, Faculty of Agricultural Sciences,Sabaragamuwa University of*

*Sri Lanka*

*2National Cinnamon Research & Training Center, Department of Export Agriculture, Thihagoda, Matara, Sri Lanka*

*[\*pawaniwindula777@gmail.com](mailto:*pawaniwindula777@gmail.com)*

The telluric fungus *Rigidoporus microporous* causes white root diseasein cinnamon (*Cinnamomum zeylanicum* Blume), the most valuable spice crop in Sri Lanka. The pathogen has the ability to degrade wood by decomposing lignified cell walls using hydrolytic and oxidative enzymes. Despite the significant economic loss caused by white root disease in cinnamon, adequate and thorough studies have not yet been conducted. Control of the disease by applying systemic fungicides is expensive, pollutes the environment, and poses health risks. Hence this study was conducted to identify the morphology of *R. microporous* and *in vitro* screening and evaluation of effective *Trichoderma* spp. for biocontrol of the causative agent of white root disease in cinnamon. The pathogen was isolated from the infected roots of cinnamon. Isolated fungus was cultured on Potato Dextrose Agar at 28±2 0C and the morphological characteristics were observed after 7 days of incubation. Two *Trichoderma* species were isolated from the forest soils by serial dilution method and the old culture received from the soil division at the National Cinnamon Research & Training Center was then, subjected to an antagonisms assay againstthe two strains of *R. microporous.* The Mycelium of the fungus was noted to be white in colour and fibrous with numerous branching-like structures. Under the compound microscope, a thread-like network of hyaline septate hyphae with no clamp connections was detected. Both *Trichoderma* spp. exhibited the antagonistic activity against the two strains of *R. microporous* with *Trichoderma* strain 2 inhibiting the growth of *R. microporous* strain 1 by 79.58 % and *R. microporous* strain 2 by 76.08 %, respectively. Further research is needed to evaluate the effectiveness of antagonistic *Trichoderma* against the causal organism of white root disease in field conditions.

**Keywords:** *antagonistic, cinnamon, Rigidoporus microporous, Trichoderma, white root disease*