Screening of Antagonistic Fungi against Causative Agent of White Root Disease in Cinnamon

The telluric fungus *Rigidoporus microporus* causes white root disease in 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 ooses health
risks. Hence this study was conducted to identify the morphology of R. microporus and in vitro
screening and evaluation of effective Trichoderma spp. for bio control 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 then, subjected to
antagonisms assay against the two strains of *R. microporus*. Mycelium of the fungus was noted to bewhite color 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. microporus* with Trichoderma strain 2 inhibiting the growth of *R. microporus* strain 1 by 79.58 %) and *R. microporus* 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.