

**ANTAGONISTIC EFFECT OF *Trichoderma* spp. AGAINST FUNGAL
STRAINS ISOLATED FROM TEA (*Camellia sinensis*) LEAVES**

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ABSTRACT

Tea plant is attacked by a number of pests and diseases, which is the major limiting factor in crop productivity. A majority of tea diseases are of fungal origin. Diseases in leaves are more important due to the obvious reason that tea plant is cultivated for its young succulent leaves. The frequent use of chemical fungicides used to control causative pathogens leads to environmental pollution, is hazardous to human and may leads to development of new chemical resistant pathogenic strains. Ecofriendly, economical and sustainable, biological control organisms can be an alternative to fungicides. *Trichoderma* species are the most widely studied bio control agent against many economically important plant pathogens. Hence, an attempt was made to investigate the antagonistic effect of *Trichoderma asperellum*, *Trichoderma viride* and *Trichoderma harzianum* strains on six fungal strains isolated from diseased tea leaves. *Pestalotia spp*, *Phomopsis spp*, *Curvularia spp*, two types of *Colletotrichum spp* were identified at their genera level based on the cultural characteristic and reproductive characteristics. Eventhough *Phomopsis spp*, *Curvularia spp* were isolated from tea leaves, those are not categorized as foliar pathogens. *Trichoderma* strains were tested under *in vitro* conditions for their antagonistic effects against six isolated fungi by dual culture test. Inhibition rates were calculated by using the equation described by Vincent and Budge. The results obtained from dual culture tests showed the inhibition rate of *Trichoderma asperellum*, *Trichoderma viride* and *Trichoderma harzianum* as 63.41 % to 79.76%, 75.75 % to 88.88%, and 73.11% to 82.51% respectively. In conclusion, all the tested *Trichoderma* strains showed more than 50% of antagonistic effects against foliar fungal pathogens under investigation. Biocontrol agent *Trichoderma spp.* were effective against tested fungal stains. Further study is required to confirm field applicability of *Trichoderma spp.* against tested fungal strains.

Keywords: Antagonistic Effect, Bio Control Agents, Dual Culture Test, Plant Pathogen, *Trichoderma spp*