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In Vitro Evaluation of the Antagonistic Effect of Some Native *Trichoderma* Strains Against Economically Important Foliar Pathogens of Rubber

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Abstract

Rubber plants are subjected to serious fungal diseases and among them, the losses caused by foliar diseases play an important role. The frequent use of chemical fungicides to control causative pathogens leads to environmental pollution, hazardous to human and may lead to the development of new chemical resist pathogenic strains. *Trichoderma* species are ubiquitous soil-borne *Ascomycetes* noted for their biocontrol capabilities against many economically important plant pathogens. Hence, an attempt was made to investigate the antagonistic effect of some native *Trichoderma* isolates on the plant pathogenic fungi; *Colletotrichum* sp., *Corynespora cassiicola*, *Phytophthora* sp. and *Drechslera heveae*. Foliar pathogens were isolated from Rubber Research Institute, Dartonfield, Agalawaththa and identified based on the symptoms, cultural and reproductive characteristics. Five *Trichoderma* isolates isolated from different habitats in Sri Lanka were tested *in vitro* for their antagonistic effects against the four foliar pathogens. The results obtained from dual culture tests showed that all the five *Trichoderma* isolates effectively checked the growth of the four foliar pathogens. The test antagonists grew faster than the pathogen limiting their growth. *Trichoderma* isolate A was the best antagonist against *Drechslera heveae*, *Corynespora cassiicola* and *Colletotrichum* sp. showing inhibition of 75.63%, 51.34% and 74.46% respectively. Isolate B showed the best inhibition (70.99%) against *Phytophthora* sp. All antagonists showed their lowest inhibition against *D. heveae*. In conclusion, all the tested *Trichoderma* isolates showed antagonistic effect on the four foliar pathogens under investigation. Therefore, the fungal isolates under investigation can be used for further greenhouse and field studies to confirm the feasibility of using for the management of rubber foliar pathogens.

Keywords: *Trichoderma* spp., *Drechslera heveae*, *Corynespora cassiicola*, *Colletotrichum* spp., *Phytophthora* spp, Bio-control agents