

## Abstract

Common bean (*Phaseolus vulgaris*) is one of the most important economic crop which is attacked by serious diseases such as Fusarium root rot. In this study, the efficacy of *Trichoderma viride* and *T. koningii* were evaluated for the suppression of *Fusarium oxysporum* causing root rot of beans in vitro and disease control under greenhouse condition. Three food carriers - broken dehulled rice grain, sorghum seeds, and vermiculite were also evaluated for suitability as growth and delivery media for *Trichoderma* isolates as determined by the sporulation ability and root rot control respectively. In vitro studies resulted in effective suppression of *F. oxysporum* by the two *Trichoderma* isolates. Saprophytic growth on rice and sorghum was good at two weeks but poor on vermiculite. *T. viride* in half broken dehulled rice produced excellent bean root rot control as measured by disease severity at 7th week and was significantly ( $P \leq 0.05$ ) better than standard seed dresser Murtano (20% Thiram and 20% Lindane); *T. koningii* and *T. viride* in sorghum, and *T. koningii* in rice had moderate disease control whilst the two *Trichoderma* isolates in vermiculite had poor disease control. There was some positive correlation between saprophytic growth of *Trichoderma* isolates in different carriers in the laboratory and their suppression of Fusarium root rot in the greenhouse. The results of this study indicates that potential exist for management of Fusarium root rot in beans by antagonistic *Trichoderma* isolates in their respective carriers and may form part of IPM for bean root rot.