

Title *Trichoderma* sp. as a biological control agent in the post harvest treatment of mango stem end rot

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Abstract

Stem end rot caused by *Botryodiplodia theobromae* is one of the most economic important diseases of mango. Currently the disease is controlled by fungicide. Due to the residual effect and biosafety issue to the health and environment caused by fungicide, this study was initiated to investigate the potential use of fungal antagonist (*Trichoderma* sp.) against *B.theobromae* and its effectiveness as compared to fungicide. The mango variety Sala was used in this study. Treatments applied were propiconazole sprayed at 500 ppm and three different spore concentrations at 1×10^3 , 1×10^6 and 1×10^8 conidia/mL of *Trichoderma* sp. with and without inoculation of *B. theobromae*. The severity of the disease was determined at 0, 2, 4, 6 and 8 days post inoculation based on disease lesion. When *B. theobromae* inoculated on mango, spore concentration of *Trichoderma* 1×10^6 and 1×10^8 conidia/mL showed good potential to control stem end rot but control levels was not as high as using Propiconazole. All the fruits without inoculation with *B. theobromae* did not develop any disease symptom until day 4 for all treatments. Treating the mangoes by spraying with three different spore concentration of *Trichoderma* sp and 500ppm Propiconazole did not have significant effect as compared to untreated (control) mango. Disease started to develop at day 6 for fruit sprayed with all the three concentrations. All treatments including control showed that the percentage of lesion had a value ranging from 0-2%. This study revealed that fungal antagonist of *Trichoderma* sp. with spore concentration of 1×10^8 and 1×10^6 conidia/mL has a potential to be further evaluate.