

## ABSTRACT

*Trichoderma asperellum* MLT1J1 is a fungus capable of producing volatile organic compounds. Recent studies have shown that bacteriomes associated with fungi can affect the behavior. This study aims to examined the effect of the bacteriome associated with *T. asperellum* MLT1J1 on morphology, growth and production of volatile organic compounds, as well as its effect on the inhibition of *Fusarium oxysporum f.sp. cubense*. To transform the bacteriome associated with *T. asperellum* MLT1J1 strain, repeated growth on PDA medium containing antibacterial *chloramphenicol* and *kanamycin* was carry out. Bacteriomes associated with *T. asperellum* MLT1J1 were observed by the *Ribosomal Intergenic Spacer Analysis* (RISA) method. Fungal growth was examined by measuring mycelia length and the volatile organic compounds produced were analyzed by *Solid Phase Microextraction* and *Gas Chromatography-Mass Spectrometry* (SPME GC-MS). The results showed that the bacteriome associated with *T. asperellum* MLT1J1 did not affect the growth of *T. asperellum* MLT1J1 but affected the production of volatile organic compounds.

**Keywords:** *Trichoderma asperellum* MLT1J1, bacteriome, volatile organic compounds.