

Bio-compartmental in vitro system for *Glomus mosseae* and *Ralstonia solanacearum* interaction.

ABSTRACT

The life cycle of arbuscular mycorrhizal fungi (AMF) is initiated by spore germination. The interaction between *Glomus mosseae* and *Ralstonia solanacearum* was achieved by following the bio-compartmental in vitro system. The system was modified to be useful for different microbes with different types of medium. Mycorrhizal fungi spores were germinated using water agar, nutrient agar and soil media, while casamino acid-peptone-glucose (CPG) media was used for *R. solanacearum*. All medium were mixed with different volumes of tomato and corn root exudates. The hyphal length of *G. mosseae* greatly affected by the exudates particularly, mycorrhizal tomato root exudates (MTRE) and mycorrhizal corn root exudates (MCRE). The growth of *R. solanacearum* was suppressed due to *G. mosseae* spores germination which can produce different volatile and non volatiles substances. The aim of this experiment was to investigate the influence of root exudates volatiles on *R. solanacearum* and the hyphal of *G. mosseae* growth under laboratory conditions using a new modified technique.

Keyword: Fungi; Spore germination; *Glomus mosseae*; *Ralstonia solanacearum*; In vitro system.