



Tropentag, September 17-19, 2018, Ghent

“Global food security and food safety:  
The role of universities”

## effect of Mycorrhizal Fungus on some Root Features Medicinal Plant *Stevia* in Hydroponic System

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### Abstract

*Stevia* (*Stevia rebaudiana*) is a source of strong, natural and free of calorie that is mainly used in industries and pharmacy. With respect to the importance of this plant, extracting sweetening compounds from this demands production of considerable biomass. *Stevia rebaudiana*, a herbaceous perennial shrub contains steviol glycosides, as an alternative source of sugar for diabetic patients. Therefore, the effects of mycorrhizal fungus on some characteristics of *Stevia*'s root organ were studied in a factorial experiment based on completely randomised blocks with 4 replications conducted in a greenhouse at Mohghegh Ardebili University in 2014. The first factor included Imma & Angel and Novell nutrient solutions; the second factor included the Planting bed that consisted of leaf mold, vermicompost, and Peat and perlite, and finally, third factor included the inoculation with mycorrhizal fungus and control treatment. The results showed that the highest percentage of root colonisation with mycorrhizal was associated with the Novella nutrient solution and vermicompost planting bed, the maximum length of myrrhizae roots and dry weight of the mycorrhizal roots of the Imma & Angel solution and the vermicompost planting bed. In addition, Novell in vermicompost planting bed yielded the largest root volume, root surface and root length after inoculation with mycorrhizal fungus. The largest Root Specific Weight, root fresh weight and root dry weight was observed in case of Imma & Angel solution in vermicompost medium (inoculated with mycorrhizal fungus). Greatest root density was found in Imma & Angel solution in leaf mold medium without mycorrhizal fungus inoculation.

**Keywords:** Medicinal plant, planting bed, nutritional solution