BIODIVERSITY OF ENDOMYCORRHIZAL FUNGI IN RELATION TO ROOT INFECTING FUNGI

By

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B.Sc. Agric. Sci. (Plant Pathology), Fac. Agric., Ain Shams Univ., 1997
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APPROVAL SHEET

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ABSTRACT

This study was planned to investigate the biodiversity of Vesicular arbuscular mycorrhizal (VAM) fungi extracted from different crops in Egypt. The highest number of VAM spores was collected from summer crops than that collected from winter season. Adding of rock phosphate or *Pseudomonas fluorescens* to *Glomus* spp. increased all growth parameters of pepper plants compared with *Glomus* spp. alone. Moreover, mixing of sclerotia of *Sclerotium rolfsii* with spores of *Glomus* spp. decreased the severity of root- and stem- rot disease on pepper plants; beside all growth parameters of pepper plants were increased. Identification of *Glomus* spp. was carried out using DNA primers and fatty acids. Isolates 2,3,4 and 7 of *Glomus* spp. were identified as *G.etunicatum* using VANS1/VALETC. Palmitic acid (16:0) , Oleic acid (cis18:1n9) and Stearic acid (18:0) were the dominant fatty acid of the *Glomus* spp., while the dominant fatty acids of *G. etunicatum* isolates were myristic acid (14:0), palmitoleic acid (16:1n7 *cis*), archidic acid (20:0), palmitic acid (16:0), oleic acid (cis18:1n9) and stearic acid (18:0).

Key words: pepper, *Glomus* spp., *Sclerotium rolfsii*, stems rot, DNA marker and fatty acid.

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