Abstract

The present study was designed to identify Arbuscular mycorrhizal fungi of cotton rhizoshere in North Khorasan and the effect of *Glomusfasciculatum* fungus on Verticillium wilt of cotton was studied. Soil sampling in the September and October of 2012-2013 crop year was taken. After isolation of spores, identification was done based on valid keys were provided by the researchers. totally 19 specieswereidentified, including *Glomus deserticola, G. claroideum, G. badium, G. aggregatum, G . pansihalos,G. corymbiforme,G. versiforme, G. walkeri,G. caesaris, G. coronatum, G. aurantium, G. minutum, G. gibbosum, G. mosseae, G. xanthium, G. eburneum, G. drummondii, G. geosporum, G. verroculosum.* The results showed that the most abundant species was *G. aggregatum,* with 19% and the lowest abundance belonged to *G. geosporum* with 1%. All identified fungi are new for cotton rhizosphere in Iran. *G. badium ،G.pansihalos,G. walker,G. minutum, G. xanthium, G. drummondii, G. verruculosum* species are reported for the first time from Iran. To study theeffect of*G.fasciculatum*onVerticillium wiltdisease , an experiment ina completely randomized designwith fourtreatments and four replicationswas conductedingreenhouseconditions. For statistical analysis of data, SAS software and for the mean comparison Duncan test at 5% probability level was used.The results showed that *G. fasciculatum* increases some growth parameters of cotton plants significantly. Also disease index of Verticillium wilt was reduced 26% by this fungus.

Key words: Biological control, *Glomus*, intraction, Symbiosis, Verticillium wilt**.**

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Identification of arbuscular mycorrhizal fungi associated with rhizosphere in North Khorasan cotton and effect of *Glomus fasciculatum*on cotton *Verticillium* wilt

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