

Response of *Lycopersicum esculentum* Mill to different Arbuscular Mycorrhizal fungi species

Abstract

The ability of endomycorrhizal fungi to colonize tomato (*Lycopersicum esculentum*. Mill) roots, was studied under glasshouse conditions. Two indigenous species; *Glomus mosseae* and *Scutellospora* sp. and non-indigenous species *Gigaspora margarita* were used in the study. Pot culture technique was used for re-culturing *G. mosseae* and *Scutellospora* sp., sorghum was used as a trap host. *Gigaspora margarita* was re-cultured by test tube technique. All species had the ability to colonize tomato root with different colonization levels. Significantly higher root were colonized by *G. mosseae* (80%) compared to *G. margarita* (20%). A *G. mosseae* significantly increased shoot dry weight (2.82 g) and flowers number (32.75 g) and root growth. Tomato plants treated by *G. mosseae* were higher significantly after seven week of plant growth. The colonization of tomato root by *G. mosseae* lead to bigger root size and more branching which increase positively the number of root tips, length, surface area and root volume. Higher spores (455/100 g) were counted in *Glomus mosseae* inoculated plant compared to *Scutellospora* sp. (250/100 g) and *G. margarita* plant (132/100 g).

Keyword: Tomato; *Gigaspora margarita*; *Glomus mosseae*; *Scutellospora* sp.