

STUDY THE EFFECT OF TWO SPECIES OF MYCORRHIZA ON SEED PERFORMANCE, BIOLOGIC PERFORMANCE AND SOYA YIELD STANDARD UNDER LOW-IRRIGATION CONDITION

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ABSTRACT

Soya (*Glycine max* L.) is one of the most important oil seeds in the world and Iran. Currently more than 80% of the country oil requirement is provided by other countries while self-sufficiency in providing the country required oil is among the critical agricultural objective in Iran. Aridity is considered to be the most important non-living limiting factor in plants growth and performance (Ching et al., 2003). Mycorrhiza is among the biologic factor which includes a significant part of terricolous organisms, mycorrhiza is able to adjust unfavorable effects from aridity in plants (Troza, 2003). To study the effect of two species of Mycorrhiza on seed performance, biologic performance and Soy yield standard under low-irrigation condition, field test was performed as split plot in the form of totally random block with 4 repetition in the farm year 2013-2014. In this test the irrigation level was studied in four level (ordinary irrigation according to the region custom, suspension of irrigation in the stem stage, suspension of irrigation in 50% when flowering stage starts, suspension of irrigation with 50% of sheathing stage) and secondary mycorrhiza factor was studied in three levels (non-usage of mycorrhiza, using *Glumus intraradice*, using *Glumus mosseae*). Inoculation of soil with mycorrhiza would increase growth and performance in the farm and lab. Mycorrhiza make increased absorption of nutrients possible through increasing the root contact area or increasing the root effective length. Mycorrhiza can especially result in changes in the plant aqueous relations. According to the study and tests results performed on the seed performance, biologic performance and yielding standard, it was determined that there is significant difference in 1% level in simple effects and interaction of different levels of low irrigation and mycorrhiza species. Under common irrigation conditions and using *Glumus mosseae*, the highest rate of seed performance was obtained for 7118 kg per hectare. Studying the interaction of all reviewed planes it was found that using mycorrhiza under low irrigation condition would improve the studied properties. Using *Glumus mosseae* should improve relative performance under low irrigation in flowering and sheathing stages. Numerous studies indicated that mycorrhiza increases the plant performance which is more sensible under aridity stress (Elyaspour and Ali Asgarzadeh, 2007).

Key words: Soya, mycorrhiza, low irrigation, performance, yield standard

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