**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. Therefore, the effects of mychorrhizal fungus on some characteristics of Stevia’s root organ were studied in a factorial experiment based on completely randomized 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 mychorrhizal fungus and control treatment. The results showed that the highest percentage of root colonization 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 mychorrhizal 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 mychorrhizal fungus). Greatest root density was found in Imma & Angel solution in leaf mold medium without mychorrhizal fungus inoculation.

**برگ هاي گیاه استویا  *((Stevia rebaudiana* حاوي دي ترپن گلیکوزیدهایی است که حدوداً 250 تا 300 برابر از ساکارز شیرین تر بوده و شیرین کننده حاصل از آن­ها امروزه کاربرد وسیعی در صنایع غذایی و دارویی یافته است. به­منظور مطالعه اثر قارچ میکوریز بر برخی خصوصیات رشدی گیاه دارویی استویا در شرایط تلقیح با قارچ میکوریز ، آزمایشی به­صورت فاکتوریل بر پایه بلوک های کامل تصادفی با چهار تکرار در گلخانه دانشگاه محقق اردبیلی در سال 1393 به اجرا در آمد. فاکتور اول شامل محلول غذایی ایما- آنجل و نوولا ، فاکتور دوم بسترهای کشت شامل خاک برگ، ورمی کمپوست و بیولان (پیت+پرلیت) و فاکتور سوم تلقیح با قارچ میکوریز و شاهد بود. نتایج نشان داد بیشترین وزن تر و خشک برگ و تعداد برگ مربوط به محلول ایما و آنجل در بستر کشت ورمی کمپوست، تحت شرایط تلقیح با میکوریز بود. بیشترین ارتفاع گیاه، مربوط به محلول ایما- آنجل در بستر کشت خاک برگ، تحت شرایط تلقیح با میکوریز دیده شد و بیشترین میزان کلروفیل مربوط به محلول نوولا در بستر کشت ورمی کمپوست تحت شرایط تلقیح با میکوریز مشاهده شد.**

Stevia leaves (Stevia Roboudiana) contain diterpen glycosides which it is about 250 to 300 times more sweetened than sucrose, and its sweeteners are widely used today in the food and pharmaceutical industries. In order to study the effect of mycorrhizal fungus on some growth characteristics of the stevia plant under inoculum with mycorrhizal fungus, a factorial experiment based on randomized complete block design with four replications was conducted in greenhouse of Ardebil University of Mohaghegh in 2015.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 mychorrhizal fungus and control treatment.The results showed that the fresh and dry weight of leaves and the number of leaves pertaining to the iMa and Angel solutions were in vermicompost culture under inoculum conditions with mycorrhiza. The highest plant height was related to the Imma & Angel solution in the soil of the leaf soil under inoculation with mycorrhiza and the highest chlorophyll content was observed for Novela solution in vermicompost culture under inoculum conditions with mycorrhiza.