

عنوان مقاله:

Response of Petunia Plants (Petunia hybrida cv. Mix) Inoculated with Glomus mosseae and Glomus intraradices to Phosphorous and Drought Stress

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خلاصه مقاله:

In order to assess drought tolerance of mycorrhizal petunia plants (Petunia hybrida cv. Mix), a greenhouse experiment was carried out with two different mycorrhizae species (Glomus mosseae and Glomus intraradices) applied singly or in combination at two phosphorous (P) levels (0 and 100 mg kg⁻¹ dry soil) and three irrigation regimes (100% field capacity (FC) as control, 75% FC producing moderate water stress and 50% FC producing severe water stress). Both mycorrhizal endophytes established well on roots of the petunia plants with higher colonization values at lower P concentration and lower colonization rate at increasing water stress. Mycorrhizal colonization generally enhanced plant vegetative and reproductive growth, both under full and reduced field capacities and with and without P fertilization. The content of soluble sugar in AMF-inoculated leaves was higher than that in non-AMF-inoculated plant leaves in response to drought treatments but proline level did not show any significant increase in mycorrhizal treatments at the same conditions. This study confirms that mycorrhizal colonization can mitigate the adverse effects of water stress on treated plants restoring most of the key growth parameters to levels similar or close to those in unstressed plants.

کلمات کلیدی:

Drought Stress, Glomus intraradices, Glomus mosseae, Petunia, Phosphorous

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