
Morphological, biochemical and physiological responses of *Teucrium polium* L. to drought stress

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Abstract

Introduction: Drought stress is one of the most important environmental stresses in Iran. *Teucrium polium* has been identified as a valuable medicinal plant. Therefore, in this study, this plant was collected from Kerman province and evaluated in terms of drought stress resistance **Methods:** An experiment was designed in a completely randomized design and performed in a pot with three replications. Treatments of 100, 70 and 40 percent of field capacity were applied. Essential oil analysis was performed by GC / MS. **Results and discussion:** *Teucrium polium* resists drought stress by using some drought tolerance mechanisms such as increasing root length, proline and protein contents. Essential oil analysis showed that this plant is rich in antibacterial metabolites such as beta-pinene and beta-caryophyllene. These results will greatly help in the selection of this plant as a drought tolerant plant and its subsequent optimal use in the pharmaceutical and health industries.

Keywords: *Beta- caryophyllen, Beta-pinene, Chromatography, Essential oil, Proline*