



Evaluating the effects of saline irrigation water and genotypes on chamazulene percentage of chamomile (*Matricaria recutita* L.)

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Background and objectives: Chamazulene is an important chamomile essential oil compound. Growth and development, performance, and the quality and quantity of the active ingredients of medicinal plants vary in different climatic conditions. This study aimed to evaluate the percentage of chamazulene of three genotypes under different levels of salinity.

Methods: This experiment was done in the field of agriculture and natural resources research center of the split plot in a randomized complete block design with three repeated and two factor salt and genotype was performed during the 2012-2013. The main factor consisted salinity levels control, 6, 9 and 12 ds/m and subfactor genotypes of Isfahan, Ahvaz and Shiraz. The essence was extracted by steam distillation method, then the percentage of chamazulene was measured using a spectrophotometer apparatus at a wavelength of 603 nm.

Results: In the genotype of Isfahan which was native to the region, the highest amount of chamazulene was observed under the influence of all treatments, and the Ahvaz genotype, which did not have enough adaptation to the region, showed the least amount of this effective ingredient than the other two genotypes. **Conclusion:** The quality and quantity of chamomile essential oils are genetically controlled as other medicinal plants, but the climatic factors and the interaction between the plant and the environmental conditions also affect this trait. The amount of chamazulene in chamomile herb increased under salinity conditions which were in line with the results of this study.

Keywords: chamazulene, genotype, *Matricaria recutita* L., salinity