

EVALUATION OF THE *FOENICULUM VULGARE* (HAMADANI GENOTYPE) LEAF PIGMENTS UNDER TWO LEVELS OF SALINITY

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Introduction

Scientific name of herbal fennel *Foeniculum vulgare* Mill. The family is Umbeliferae. One of the most valuable medicinal herb is in the world. The main environmental salinity limits crop production, especially in arid and semiarid regions of the world. Salt and deal with the problems that humans thousands of years has been grappling with. This is particularly important late in the first half of the twentieth century seriously became apparent when the human food supply needs to find more arable land. In order to evaluate some chemical compounds, such as carotenoids, anthocyanins and chlorophyll (a, b and total) Fennel herb leaves were measured at different levels of salinity.

Materials and Methods

Hamadani genotype were cultivated complete randomized block design with three replications fennel and salt levels (2 (control) and 8 dS/m) in Isfahan agriculture research center farm. Plants after full deployment using a combination of salt (NaCl) and the municipal water for irrigation. The leaves were collected at flowering time and the amount of chlorophyll and carotenoid using the Arnon (1949) , anthocyanin content of Wagner (1979) were measured . This study examines the amount of chlorophyll pigments, anthocyanins and carotenoids were studied under salt stress. Data obtained with the use of SAS software, and analysis of variance with Duncan's test at 5% probability level were analyzed.

Results and Discussion

Results Analysis of variance showed that all traits were significant at the 5% level. The highest amount of anthocyanins, carotenoids and chlorophyll (a, b and total) in the leaves of 8 ds/m and the lowest in control was observed. Based on the results of this study can be said of the fennel plant, increasing its chemical composition due to high salinity levels, consistent with the stress. So this plant can be grown in areas with salty water fairly. Recommended level of salt stress are examined.

Keywords: *Foeniculum vulgare*, Salinity, Anthocyanins, Carotenoids, Chlorophyll (a, b and total).

References

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