

Evaluation of Salt Stress at Germination and Seedling Stages of *Foeniculum vulgare* Mill. in Hydroponic Condition

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Abstract

Identification of medicinal plants with tolerance to salinity stress has an economical importance in Iran. This study was carried out to evaluate the effects of salinity stress on different Morpho-Physiological traits of *Foeniculum vulgare* Mill in germination and seedling stage in hydroponic condition. The experiment was conducted as a split plot based on a Randomized Complete Block Design (RCBD) with four (in first experiment) and three (in second experiment) replications. Salinity effects of NaCl [0, 50, 100, 150 200 (Mm)] was evaluated on three genotypes of *Foeniculum vulgare* (Estahban, Isfahan, Shiraz). Analysis of variance showed that salinity levels reduced the percentage of germination, seed vigor index, rootlength, stem length, root dry weight, shoot dry weight, biomass, the ratio of shoot to root, chlorophyll index, chlorophyll a and b and carotenoid content. Significant variation was observed between different genotypes on different levels of salinity. Tolerance to salinity in seedling was more than germination. In two experiments, the genotype of Shiraz showed superiority in view point of tolerance.

Keywords: *Foeniculum vulgare* Mill, genotype, medicinal, tension.

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