



## Effect of Abiotic Factors on Seed Germination of *Anacyclus pyrethrum* (L.) Link, and Modeling of Habitat Suitability in Saida (Algeria)

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**Abstract:** *Anacyclus pyrethrum* (L.) Link is a vulnerable medicinal plant, in order to provide basic information for its conservation and reintroduction, the impact of saline stress and water stress on seed germination was studied and mapping of the habitat suitability of this species in the Saida region was predicted using the Maxent method. The salinity treatments used were 0, 50, 100, 200 m M l<sup>-1</sup> of NaCl, while water deficits of 0, -2, -4, -6 and -8 MPa were induced using polyéthylène glycol 6000. Water stress impact test results indicate that *A. pyrethrum* seeds are highly tolerant to water stress, with a germination capacity of 68.88 per cent when exposed to a PEG solution of -2 MPa. Altitude and 19 bioclimatic variables, along with 34 points of presence of the species, were used to predict the habitat suitability of *A. pyrethrum* in an area of 6,765 km<sup>2</sup>. This model obtained has shown to be accurate. The results can serve as guidelines for the propagation protocols of this species and present the most appropriate areas to promote their cultivation, and provide a useful reference for the implementation of conservation and management strategies for this species.

**Keywords:** *Anacyclus pyrethrum*, Abiotic factors, Conservation, Germination, Habitat suitability

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