

Effect of Temperature on Germination and Seedlings Development of Moringa Oleifera Lam

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Abstract : Moringa oleifera L. species is considered one of the most useful trees in the world, possessing many interesting properties that make it of great scientific interest. It has been described as the miracle tree, the tree of a thousand virtues, the tree of life and God's gift to man. The present study aims to introduce, produce, and develop Moringa Oleifera as a species with high ecological potential (resistance to biotic and abiotic stresses and productivity), high added value, and multiple virtues. The aim of this work is to study the germination potential of this species under different temperature conditions. In this study, the germination assay was tested in two different temperature ranges: internal (laboratory ambient temperature between 22°C and 25°C) and external (seasonal temperature between 4°C and 8°C). Morphological and physiological analyses were carried out by Shoot length (SL), root length (RL), diameter at the crown (DC), fresh weight of shoots (FWS), fresh weight of roots (FWR), dry weight of shoots (DWS) and dry weight of roots (DWS). For all these variables, the results of the study reveal a significant difference between the two temperature intervals, with a high germination rate of 81.81% and plant growth was rapid (7cm during 24h) in the laboratory temperature; in contrast to the external temperatures, a germination rate value of around 27% was recorded, and germination took place after 20 days of sowing, with slower plant growth. The results obtained show that a temperature greater than or equal to 25° is the ideal temperature for the germination and growth of moringa seeds and has a positive influence on the speed and percentage of germination.

Keywords : moringa oleifera, temperature, germination rate, growth, biomass

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