

## Screening Some Accessions of Lentil (*Lens culinaris* M.) for Salt Tolerance at Germination and Early Seedling Stage in Eastern Ethiopia

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**Abstract :** To evaluate genetic variation among Ethiopian lentil, laboratory experiment were conducted to screen 12 accessions of lentil (*Lens culinaris* M.) for salt tolerance. Seeds of 12 Lentil accessions were grown at laboratory (Petri dish) condition with different levels of salinity (0, 2, 4, and 8 dSm<sup>-1</sup> NaCl) for 4 weeks. The experimental design was completely randomized design (CRD) in factorial combination with three replications. Data analysis was carried out using SAS software. Average germination time, germination percentage, seedling shoot and root traits, seedling shoot and root weight were evaluated. The two way ANOVA for varieties revealed statistically significant variation among lentil accession, NaCl level and their interactions ( $p < 0.001$ ) with respect to the entire parameters. It was found that salt stress significantly delays germination rate and decreases germination percentage, shoot and root length, seedling shoot and root weight of lentil accessions. The degree of decrement varied with accessions and salinity levels. Accessions 36120, 9235 and 36004 were better salt tolerant than the other accessions. As the result, it is recommended to be used as a genetic resource for the development of lentil accession and other very salt sensitive crop with improved germination under salt stress condition.

**Keywords :** accession, germination, lentil, NaCl, screening, seedling stage

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