**Evaluation of genetic diversity of bread wheat landraces under normal and salinity stress conditions in terms of germination-related traits**

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**Abstract**

Bread wheat is one of the most important food products in Iran and the world, which is very important in terms of level and nutritional value. In order to evaluate the genetic diversity of germination-related traits under non-stress and salinity stress conditions in 207 bread wheat landraces and three control cultivars (Arg, Narin, and Sistan), a factorial experiment was conducted in a completely randomized design with two replications. 210 genotypes as the first factor and different concentrations of salinity stress (0, 60, and 120 mM NaCl) were considered as the second factor**.**The results showed the significance of the main effect of genotype, salinity stress and the interaction effect of salinity stress × genotype at a level of 1% probability on all traits measured in the germination test. The highest amount of measured traits was obtained under normal conditions (without stress) and the lowest amount was obtained under severe stress conditions (120 mmol). According to the results of factor analysis under normal conditions, moderate and severe stress, three factors were selected and explained 89.89, 91.71 and 91.00% of the variability in the traits, respectively. The first factor was named as the seedling dry weight factor justifying the most variations in the data. Principal component analysis based on stress tolerance indices under moderate and severe stress conditions justified 99% of the data variations. Cluster analysis based on these indices grouped the genotypes into four clusters. In general, based on biplot analysis, cluster analysis and stress tolerance indices, genotypes 8, 15, 17, 20, 34, 54, 56, 176, 197 as salinity tolerant genotypes in moderate and severe stress conditions were determined.

**Keywords**: Multivariate statistics, Abiotic stress, Genetic diversity, Germination, Stress tolerance indices, Wheat