

Genetic variability, association and diversity study among the sunflower genotypes at seedling stage based on different morpho-physiological parameters under polyethylene glycol induced stress

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Abstract

Drought stress directly affects growth along with productivity of plants by altering plant water status. Sunflower (*Helianthus annuus* L.) an oilseed crop, is adversely affected by biotic stresses. The present study was carried out to study the genetic variability and diversity among the sunflower genotypes at seedling stage based on different morpho-physiological parameters under Polyethylene Glycol (PEG) induced stress. A total of twenty seven genotypes including two hybrids, eight advanced lines and seventeen accessions of sunflower (*Helianthus annuus* L.) were tested at germination and seedling stages in Polyethylene Glycol. Correlation and principle component analysis confirmed that germination percentage, root length, proline content, shoot length, chlorophyll content, Stomatal frequency and survival percentage are positively correlated with each other hence; these traits were responsible for most of variation among genotypes. The cluster analysis results showed that genotypes Ausun, line-2, line-8, 17559, 17578, Hysun-33, 17555, and 17587 as more diverse among all the genotypes. These most divergent genotypes could be utilized in the development of inbreed which could be subsequently used in the heterosis breeding.

Speaker Publications:

1. "Effect of drought stress induced by polyethylene glycol"

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Biography:

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