

## Response of wild okra (*Corchorus olitorius* L.) seeds to drought stress condition

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**ABSTRACT:**

This study was laid out in order to evaluate the effect of drought stress by Poly Ethylene Glycol (PEG) on seed germination, seedling growth and heterotrophic growth of wild okra at the laboratory of horticulture faculty of Gorgan Agricultural and Natural Resources University, Iran, March 2015. The corresponding treatments were different drought stress levels of PEG (0, -2, -4, -6, -8 and -10 bar). 25 seeds of each lot evenly placed on Whatman filter paper No.1 at sterilized 9 cm Petri dishes separately and 10 ml of each solution were added to the related treatment. Seed germination parameters, seedling growth and heterotrophic growth components were determined. The results showed that, the effect of drought stress was significant on germination percentage, germination rate, radicle dry weight, seedling length, and seed vigor index and seed reserves utilization. Mean comparison data showed that maximum germination percentage, germination rate, hypocotyl dry weight, radicle dry weight, seedling length, and seed vigor index and seed reserves utilization and conversion efficiency of mobilized seed reserve were recorded for -2 bar water potential and the lowest of them was recorded for the -10 bar water potential for all traits. However, maximum ratio of utilized seed reserve was found at 0 bar water potential treatment and minimum of it was recorded for the -10bar water potential. In final, results of this study showed that with an increase in the drought levels of wild okra-seed germination medium, seed germination parameters, seedling growth and heterotrophic growth components decreased.

**Keywords:**

Germination, seedling growth and Wild Okra