

## A PRELIMINARY STUDY FOR SALT TOLERANCE OF FIVE IMPROVED RICE VARIETIES AT GERMINATION STAGE

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Screening for salt tolerance at early growth stages under laboratory conditions using effective salinity indices like root length, shoot length, plant biomass etc. is an efficient method compared to screening under field conditions. Five improved rice varieties, Bg 94/1, Bg 250, Bg 252, Bg 300 and Bg 357, were tested for salt tolerance at germination and early growth stage under five electric conductivity levels – 0, 4, 8, 12 and 16 dS/m. Germination Energy (GE), Speed of Germination (SG), Final Germination Percentage (FGP) and root length, shoot length, total fresh weight and total dry weight were determined after seven days. The data obtained were analyzed using Minitab software 16.1 (2017). Although Bg 357 showed a slight reduction in GE, SG and FGP, these parameters were not affected in any other varieties by the tested salinity levels. Root length, shoot length and total fresh weight of all varieties decreased significantly with increasing salinity. However, the total dry weight of all varieties up to EC 16 dS/m increased significantly compared to the control, possibly due to solute accumulation as a stress avoidance strategy. Thus, the germination of tested varieties were not affected by any salinity level used and all varieties showed stress avoidance strategy at early growth stage. Further studies on the effect of salinity at seedling and later stages of growth are needed.

**Keywords:** Salt tolerance, rice, germination