

Effect of four different salts on seed germination and morphological characteristics of *Oryza sativa* L. cv. MR219

ABSTRACT

The response of *Oryza sativa* L. cv. MR219 to NaCl, KCl, MgCl₂ and MgSO₄ at different salinity levels (0, 50, 100, 150, 200 and 250 mM) was studied with emphasis on seed germination and early seedling stage. High salinity delayed mean germination time of seeds and increased biomass, relative injury rate and seedling height reduction. Seeds are more tolerant to NaCl among four salts even at the highest salinity. Results showed that 50mM KCl enhanced the root growth with more roots developed at this salinity. Abnormal seed germination was found in MgCl₂ and MgSO₄ due to inhibition of root growth. This study proposes that degree of tolerance of MR219 to salts from morphological results is NaCl>KCl>MgCl₂>MgSO₄. This study might be useful for further research of salinity effect on growth and physiological processes at advanced stage of MR 219 growth.

Keyword: Seedling; Salinity; NaCl; KCl; MgCl₂; MgSO₄