IN VITRO SCREENING OF SALINITY TOLERANT GENOTYPES FOR FURTHER GENE EXPERESSION ANALYSIS IN BRINJAL

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Extended Summary

In vitro screening of ten brinjal cultivars (Debgiri, Talbegun, Shinghnath, White begun, BARI Begun-1, BARI Begun-4, BARI Begun-7, BARI Begun-8, BARI Begun-9 and BARI Begun-10) were germinated on MS basal medium in glass jar containing 0, 50, 100, 200 and 300 mM of NaCl. T_0 select the salt tolerance and salt sensitive genotype, shoot length, shoot fresh weight, shoot dry weight, root length, root fresh weight and root dry weight were measured. Comparing the mean values of the parameters Talbegun (Islampuri), BARI Begun-1 and BARI Begun-9 were found moderate salt tolerance and Debgiri, Singhnath, White begun, BARI Begun-4, BARI Begun-7 BARI Begun-8 and BARI Begun-10 were salt sensitive genotypes. Salt stress significantly reduced root and shoot length, root and shoot fresh weight, root and shoot dry weight. After forty two days interval it was observed that different replicates showed different morphological growth parameters due to application of NaCl. Results showed that replicates with maximum salt concentration that is 0 and 50 mM NaCl gave best growth which showed that maximum salt stress for brinjal was good enough for growth and stress showed positive response on the plants with 50 mM NaCl. Normally salinity stress in excess is harmful for plant growth but our experimental observations showed that our brinjal species was salt tolerant. Plants bore the salt stress upto 50 mM NaCl. It was examined that this tolerance limit was not harmful and not acted as stress on brinjal spp. Discrepancies and inconsistences can also exist there in due to difference in environments, cultivars and experimental condition. The pattern of the brinjal genotypes in this study suggests that the salt tolerance and salt sensitivity of some brinjal cultivar are due to genotypic variation and possibility not epigenetic adaptation under salt condition.

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