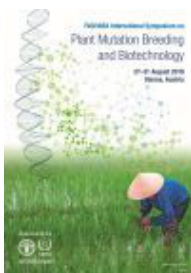


FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology



Contribution ID: 14

Type: **Poster**

MORPHO-GENETIC SCREENING OF THE PROMISING RICE GENOTYPES UNDER SALINITY STRESS

Selection of rice (*Oryza sativa* L.) varieties tolerant to soil salinity is important to reduce the impact of salt stress on rice production. In this study, the morphological characterization was performed on 5 rice genotypes under two salt stress treatments EC 8 and 12 dS/m at seedling, EC 12 dS/m at vegetative and EC 8 dS/m at reproductive stages. Morphological characters and Na⁺/K⁺ uptake ratios were surveyed to evaluate salt stress effects. At vegetative stage, all the genotypes have survived. However, at reproductive stage all the genotypes were affected by salt stress except for the Binadhan-10 that survived the whole life cycle. A total of 160 SSR markers were used which revealed 209 alleles among the 5 rice genotypes. Interestingly, 4 SSR markers RM105, RM125, RM178 and RM549 with highest value: 0.67 have scored the highest level of genetic diversity value (0.72). These markers could be used for pyramiding the major and minor salt stress related genes via marker assisted selection in rice. The present investigation on different salt stress responsiveness of 5 promising rice genotypes will be of great value in rice breeding.

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Track Classification: New challenges and technologies in plant genomics and breeding