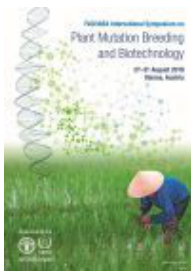


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APPLICATION OF NUCLEAR TECHNIQUES AND MARKER ASSISTED SELECTION FOR IMPROVING SALT TOLERANCE IN A RICE VARIETY

Vietnam is one of the top 5 countries that studies reveal will be severely impacted by climate change. Bad harvests, natural calamities, floods, and pests and diseases will also occur more often. For adaptation to mentioned challenges, cultivation of varieties resistant to biotic and abiotic stresses are required. In this study, the result of application of irradiated techniques and biotechnology in rice breeding for salt tolerance will be presented. Dry seeds of TL6.2 variety were irradiated with 300 gray of Cobalt-60 gamma rays. This variety is salt tolerant (carrying saltol QTL) but is low yielding. The purpose of irradiation is to improve yield of the origin variety. We expected to get the mutant lines not only have tolerance to salinity but also have high yield, short duration, and good quality. M4 progenies were used for marker assisted selection (MAS) and green house testing with salt solution (0.5% NaCl) to select elite salt tolerance lines. Based on the evaluation of agronomic traits in fields, the promising mutant line M6.8 named DT80 that carrying saltol QTL and withstand salinity of 0,5% NaCl. DT80 was evaluated in salinity fields and sent to The National Testing Center for Crops to test for Value of Cultivation and Use of crop (VCU) 3 seasons and Distinctness, Uniformity and Stability of crop (DUS) 2 seasons (during 2015 - 2016). The mutant DT80 has just been certified as new mutant variety in September 2017. Agricultural Genetics Institute has been transferred the mutant DT80 variety to the private company to develop on large scale.

Country or International Organization

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