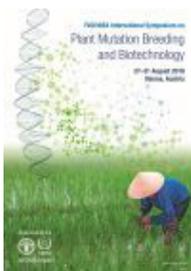


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ACHIEVEMENT OF RICE MUTATION BREEDING IN LAO PDR

Conventional rice breeding started in Lao PDR in 1991, 20 improve rice varieties have been released since 1993. Blast is the major disease and flooding tolerance are major breeding concerns. In 2014, the varieties: TDK8 and TDK11 were irradiated with 150 to 400 Gy. They were the most popular varieties and highly productivity but susceptible to blast and flooding. 137 mutant lines were found which segregated for seed colour, plant high and maturity. These were screened for blast resistance and flooding tolerance at RRC in 2016. Five isolates of blast were used for screening and after inoculation responses were measured using a scale of 6 lesion type categories (0 = resistance and 6 = susceptible). Among one hundred thirty-seven (137) mutant lines of TDK8 (150 Gy) the lines: 17, 3, 26, 12 and 59 were resistant to isolates H08-040-1, H08-420-1, H08-259-1, H08-243-1 and H08-171-1, respectively. And mutant lines of TDK8 (200 Gy): 47, 8, 27, 26 and 84 were resistant to isolates H08-040-1, H08-420-1, H08-259-1, H08-243-1 and H08-171-1, respectively; almost of them were score= 0 while TDK8 = 6. The response of mutant line of TDK11 was not significant. Screening for submergence tolerance in 137 mutant lines was done for good recovery after flash flooding at the seedling stage. 16 mutant lines of TDK8 survived with survival from 4 to 34% compare to control TDK8, which did not survive. In TDK1 mutants TDK1-Sub1 showed 15% survival and TDK21_Sub1 showed 18% survival. There were 8 mutant lines which had higher than 20% of survival. While there was only one mutant line of TDK11 that showed survival, this was only 4%. Blast resistant lines and flooding tolerance lines will be screened for eating quality, yield and yield component in next generation

Country or International Organization

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