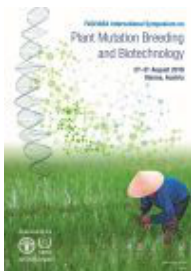


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EVALUATION OF DROUGHT TOLERANCE RICE MUTANT LINES AND IDENTIFICATION USING SSR MARKERS

Marginal land in Indonesia occupy around 100 million ha, most of these land is dry land. These dry land can be used for agriculture purposes with Crops tolerance to drought. Developing of rice tolerance to drought through mutation induction is becoming important strategy to stabilize rice production. Seven selected drought tolerance rice mutant lines obtained from mutation induction of Mira-1 variety by the dose of 25 and 50 Gy gamma rays at primordial stages have been conducted. SSR markers such as RM 212, RM 302, RM 3825, RM 470 and DRO1 have been used in PCR reaction. The field evaluation of agronomic characters were conducted during dry season at 2016. and sequencing evaluation also done by DRO1 marker. The result shown that mutant lines more tolerant to drought compared their own parent plant, the highest productive tiller found at 26C1 mutant line was 20 compared to Mira-1 variety only 8 productive tiller, the number of grain content per panicle were 78.2 %. Based on SSR marker linked to root depth, DRO1 showed that the mutant lines polymorphic, and changing of genetic of mutant lines which were indicating tolerant to drought compared to their wild type. Based on sequencing analysis showed that deletion of DNA 4 bp occurred at 7E1 mutant line and it was similar to Kinandang pathon variety. The objectives of this research were to evaluate the performance of rice mutant lines under drought stress conditions, and the genetic changes of mutant lines using SSR markers.

Country or International Organization

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Track Classification: Mutation breeding for adaptation to climate change in seed propagated crops