

**TAGGING OF WHITE BACKED PLANTHOPPER (*Sogatella furcifera* Horvath)
RESISTANT GENE IN RICE (*Oryza sativa* L.) USING RANDOM AMPLIFIED
POLYMORPHIC DNA MARKERS**

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ABSTRACT

Recombinant inbred lines (RILs) derived from the cross of a highly resistant parent, IR 5690 (IR54745-2-10-17) and a highly susceptible parent, IR 50 were phenotyped in greenhouse and subjected to Random Amplified Polymorphic DNA (RAPD) analysis to tag RAPD markers linked to white backed planthopper (WBPH) resistant gene in rice. A comprehensive RAPD analysis using 94 decamer primers revealed a high polymorphism (11.8 %) between the parents. RAPD polymorphisms were either co-dominant or dominant for resistant or susceptible phenotype. Of the 37 dominant primers, four primers (OPE 8, OPM 4, OPBC 19 and OPBD 20) amplified a resistant parental band in the resistant bulk and one primer, OPBD 12 amplified a susceptible parental band in the susceptible bulk through bulked segregant analysis (BSA). RAPD analysis of individuals constituting the bulk revealed a perfect co-segregation of markers with the phenotype. The specific markers OPM 4₆₀₀, OPE 8₃₈₀ and OPBC 19₆₀₀ identified in this study, could be used in a cost effective way for the selection of WBPH resistant rice genotype in rice molecular breeding programs.

Key words: Rice, White backed planthopper, Random Amplified Polymorphic DNA Bulk Segregant Analysis, Recombinant Inbred Lines.