Identification of Restorers and Maintainers in Test Cross Hybrids in Rice (*Oryza sativa* L.)

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ABSTRACT

Two cytoplasmic male sterile (CMS) lines APMS 6A and APMS 8A of rice having wild abortive (WA) cytoplasmic male sterility source were crossed with fifty genotypes to identify their restorer/maintainer nature. A total of 100 test cross hybrids were subjected to pollen fertility and spikelet sterility analysis. Most of the genotypes expressed differential fertility restoration with 2 CMS lines. The genotype, AM 643 was identified as maintainer for the both CMS lines while eight genotypes *viz.,* AM 620, AM 638, BM 382, BM 392, HR 1-1, HR 1-6, HR 1-10 and HR 1-11 were identified as restorers for both the CMS lines. Ten genotypes were identified as a partial restorers for both CMS line and six genotypes were identified as partial maintainers for both the CMS line. The restorers identified in the present investigation could be used to develop good, high yielding and promising rice hybrids and maintainers identified can be repeatedly back crossed with the CMS lines to develop new stable CMS lines.

Key words: *Rice, CMS lines, Restorers, Maintainers, Pollen fertility and Spikelet sterility.*