

IDENTIFICATION OF RESTORERS AND MAINTAINERS IN RICE (*ORYZA SATIVA* L.)

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Abstract: Three cytoplasmic Genetic male sterile (CMS) Lines of rice having wild abortive (WA) cytoplasmic male sterility source were crossed with 36 entries to assess their maintainers and restorers obtained from 40 crosses.

The 40 hybrids were subjected to pollen and spikelet fertility analysis. Among the 40 hybrids 3 were expressed as restorer, 4 were partial restorer for CMS line CRMS 31A, 9 male line regarded as restorer and 19 male line regarded as partial restorer for the CMS line CRMS 32A. The 2 male line were restorer for CMS line DRR 3A. The only one parent R1130-100-1-88-1 was observed as maintainer for CMS line DRR 3A. Two partial maintainers viz., RF- 59 and IR 73459-120-2-2-3 were observed for CMS line CRMS 32A.

Keywords: CMS lines, Restorers, Maintainers, Rice

REFERENCES

- Gannamani, N.** (2001). Study of heterosis and combining ability by utilizing cytoplasmic genetic male sterility and fertility restoration system in rice. M.Sc. (Ag.) thesis, Indra Gandhi Agricultural University, Raipur, India.
- Hariprasanna, K., Zaman, F.U. and Singh, A.K.** (2005). Identification of versatile fertility restorer genotypes for diverse CMS lines of rice. *Oryza*, **42** : 20 – 26.
- Jayaramaiah, K., Zaman, F.U. and Singh, S.K.** (2007). Identification of versatile fertility restorer genotypes for different CMS lines of rice (*Oryza sativa* L.) *Oryza*, **41**(1) : 2 – 6.
- Mandal, R.K., Saran, S. and Sahai, V.N.** (1990). Fertility restoration in a male sterile line in rice. *Oryza*, **27**: 319-321.
- Mcwilliam, J.R., H. Ikehashi and Sinha S.K.** (1995). Progress in hybrid rice in India. *Intl. Rice Comm. Newsletter*, **44** : 80 – 86.
- Murugan, S. and Ganesan, J.** (2006). Pollen and spikelet fertility analysis in rice crosses involving WA cytoosteriles. *Int. J. agric. Sci.*, **2** : 315 – 316.
- Pradhan, S.B., Ratho, S.N. and Jachuck, P.J.** (1992). Restorers and maintainers for five CMS lines. *Int. Rice Res. Newsl.*, **17** (5): 8.
- Prasad, M.N., Thiyagarajan, K., Jayamani, P. and Rangasamy, M.** (1992). Isolation of maintainers and restorers for CMS lines in Rice. *Int. Rice Res. Notes*, **18**:10.
- Rosamma, C.A. and Vijayakumar, N.K.** (2005). Maintainers and restorers for CMS lines of rice. *Journal of Tropical Agriculture*. **43**(1/2): 75-77.
- Sao, A.** (2002). Studies on combining ability and heterosis in F₁ rice hybrids using cytoplasmic male sterile lines. M.Sc. (Ag.) thesis, Indira Gandhi Agricultural University, Raipur, India.
- Sharma, J.P. and Mani, S.C.** (1989). A medium duration high yielding scented hybrid rice. *Int. Rice Res. News.*, **14**:7.
- Sutaryo, B.** (1989). Evaluation of some F₁ rice hybrids developed using MB 365 A as CMS line. *Int. Rice Res. Newsl.*, **14** : 7 – 8.
- Virmani, S. S., Viraktamath, B. C., Casal, C. L., Toledo, R. S., Lopez, M. T. and Manalo, J. O.** (1997). Hybrid rice breeding manual. International rice Research Institute, Philippines.