

## RESEARCH ARTICLE

# Identification of restorers and maintainers for WA based Indica CMS lines of rice

■ PRGYA PARMITA AND ASHISH GOSWAMI

### SUMMARY

Among the innovative genetic options available for enhancing the rice production hybrid rice is one of the technologies which is feasible and readily adoptable. In the early stage of the hybrid rice breeding programme, breeders identified restorer lines by testcross screening from rice germplasm pools. The availability of stable cytoplasmic male sterility and fertility restoring system is vital for commercial exploitation of heterosis in rice. In the present experiment, seven cms lines of divergent origin were studied for their pollen fertility and spikelet fertility in first year at DRR, Hyderabad. Out of them top five were reevaluated in next year at Varanasi location. These five stable cytoplasmic male sterile lines (CMS) of rice having wild abortive (WA) cytoplasmic male sterility source were crossed with 30 genotypes to identify their restorer/maintainer nature. Most of the genotypes expressed differential fertility reactions when cross with cms lines. Among the genotypes tested, no one was found to be common as effective restorer for all the five cms lines. Genotypes found to be effective restorers for four CMS lines, Sarju 52, Malviya 36, HUR 105, Narendra 359, Pusa Sugandh 3, Pusa Sugandh 4 and NDR 118 were the promising effective restorers for most of the CMS lines.

**Key Words :** Rice, CMS lines, Maintainers, Restorers

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