

## VALIDATION OF MAS DERIVED LINES FOR INTROGRESSED GENE AGAINST BLAST AND BLB RESISTANCE IN SOUTHERN CHHATTISGARH

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**Abstract:** The experiment was carried out at SGCARS, Jagdalpur, IGKV Raipur, Chhattisgarh to validate Marker Assisted Selection (MAS) derived genotypes, from ICAR-IIRR, Hyderabad, against blast and bacterial leaf blight resistance and access recurrent parent recovery. BPT 5204 (Samba Mahsuri) the recurrent parent 01 (RP 1) for the four test genotype recorded average plot yield of 4.00 kg/ha placing second in the experiment. When the recurrent parent 02 (Improved Samba Mahsuri) was taken into account, genotype RP-Patho-1-2-15 recorded higher plot yield (4.23 kg). RP-Patho-1-2-15 and RP-Patho-3-56-11 were similar to the recurrent parent with heading span of 78 and 79 DAS accordingly while RP-Patho-3-73-6 was six days in advance (70 days) to the recurrent parent (76 days). The entire test Near Isogenic Lines (NILs) with a plant height of 79-85 cm were similar to the recurrent parent (82 cm). Blast and bacterial leaf blight resistance gene carrying genotypes RP-Patho-2-18-5 and RP-Patho-2-16-4 gave plot grain yield 3.77kg, which out yielded recurrent parent 02 but lesser than recurrent parent 01. Incidence of blast reported in Tetep (1-2%), C 101 LAC (8-10%) and average (5-8%) in all NILs. Blast resistance genes *Pi 1* carrying genotypes RP-Patho-1-2-15 and RP-Patho-1-6-5, the infestation was comparatively higher (Score 6) than those with *Pi 54* (RP-Patho-3-56-11 and RP-Patho-3-73-6, RP-Patho-3-56-11 and RP-Patho-3-73-6 (Score 4). However, dual genetic resistance background i.e. blast and bacterial blight resistance genes *Xa 21+ Pi-54*, provided excellent resistance even in hot spot centre for the disease. There was no incidence of Bacterial Leaf Blight (BLB) in all the isogenic line including donor and recurrent parents which may be because of plant defence system or incompatible environmental condition for disease prevalence.

**Keywords:** NILs, Marker Assisted Selection, Recurrent parent, Blast, Bacterial Leaf Blight

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