

PERFORMANCE OF CLIMATE-SMART RICE VARIETY 'BINADHAN-11' IN EAST AND SOUTH EAST COASTAL PLAIN ZONES OF ODISHA

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ABSTRACT

In Odisha, about 40 lakh ha area covered under rice crop, which occupies about 24 percent of gross cropped area of the country, and basically the coastal plains are major dominant in rice production of the state but this coastal regions are more prone to flash and heavy flood. The district, Jagatsinghpur comes under East and South East coastal plain zone of Odisha and this district is vulnerable to flood, flashflood, cyclone and water stagnation for longer period in crop fields. Submergence has been identified as the third most important constraint for higher productivity, because it sometimes resulted in total yield loss. Farmers' participatory field trials were carried out in two blocks like Tirtol, Jagatsinghpur of Jagatsinghpur district to study the performance of submergence tolerant rice variety Binadhan-11 and farmers ruling variety Lalat was taken as check. The field experiment was conducted during Kharif -2017, in farmers' field in two flood prone villages i.e. Nagapura of Tirtol block and Gobindapokhari of Jagatsinghpur block, comprising 30 no of farmers, 15 from each village. The result revealed that maximum number of tillers/m², panicle length, plant height and no of grains per panicle, we rerecorded higher in Binadhan -11 as compared to farmer's variety, Lalat. It was observed that the average grain yield of Binadhan-11 was 47.62 q ha⁻¹ as compared to farmer's variety Lalat 45.23 q ha⁻¹ and yield was 6 % higher over farmer's variety Lalat. The farmer's feedback showed that the rice variety Binadhan-11 can tolerate water lodging condition and can successfully overcome water submergence for 4-8 days during tillering to stem elongation stage. So, it was revealed that, performance of Binadhan-11 under submergence condition was consistent and exhibited tolerance towards submergence with higher grain yield as compared to Lalat. It was concluded that Binadhan -11, the "climate change-ready rice" can substitute farmer's variety Lalat in Medium land situation with substantial higher yield and tolerant to submergence condition, with positive impacts in the lives of poor marginal farmers of coastal districts of Odisha. From this experiment, it was concluded that Binadhan -11 exhibited highest survivable percentage under submergence condition and was the highest performing medium duration rice variety as compared to Lalat in East and South East coastal plain zone of Odisha.

KEYWORDS: Coastal Region, Climate Smart, Environmental Stresses, Submergence Tolerance

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