

Evaluation of Growth and Yield Performance of Twelve Different Rice Varieties Under North Konkan Coastal Zone of Maharashtra

Objective: To confirm the best rice variety suitable for North Konkan Coastal Zone of Maharashtra

Introduction

Rice (*Oryza sativa*) is a semi aquatic annual plant and most important cereal crop in the world. It is the major staple food of nearly half of the world's population particularly in Asia where approx. 90% of world's rice is produced and consumed. It is estimated that by the year 2025, the world's farmers need to be produced about 21% than at 2000 and 60% more rice than at present to feed expected world population. International Rice



Research Institute (IRRI) has been released more than 1000 modern rice varieties resulting rapid increase in rice yields and global rice production.

With the adoption of improved production technologies such as high-yielding varieties/hybrids, expansion of irrigation potential, and use of chemical fertilizer, the supply of rice in the country has kept pace with the increase in demand. Demand for rice is expected to further increase in the

future as the population is continuously increasing, so production of rice also needs to be increased. Major constraints for productivity and sustainability of rice-based systems in the country are the inefficient use of inputs fertilizer, increasing scarcity of water and labor especially for rice cultivation, new emerging challenges from climate change, rising fuel prices, increasing cost of cultivation, and socio-economic changes such as migration of labor, urbanization, and less liking for agricultural work by young youths, women's. The present study was carried out to the evaluation of growth performance of twelve varieties on large scale under the North Konkan coastal zone of Maharashtra.

Experimental Details:

Crop	: Rice
Variety	: 12
Experiment Layout	: RBD
No. of Replications	: Three
Spacing	: 20 cm x 15 cm
Plot size	: 3.30 m X 2.85 m
Date of TP	: 20/07/2022

Treatment details:

T₁	ZINI	T₇	GURJARI
T₂	JAYA	T₈	VNR - 7
T₃	DANDI	T₉	VNR - 8
T₄	RAJGHUDYA	T₁₀	VNR - 9
T₅	GOVINDBHOG	T₁₁	KARJAT - 3
T₆	DANGI	T₁₂	KARJAT - 5

Methodology:

The same experiment was repeated in second year at ASPEE, Agricultural Research and Development Foundation Farm, Village Nare, Taluka Wada, District, Palghar in the kharif season during 2022 to find out the best variety suitable in Palghar district. The data were analysed with Randomized Block Design (RBD). The gross plot size and net plot size were 3.30 m x 2.85 m,

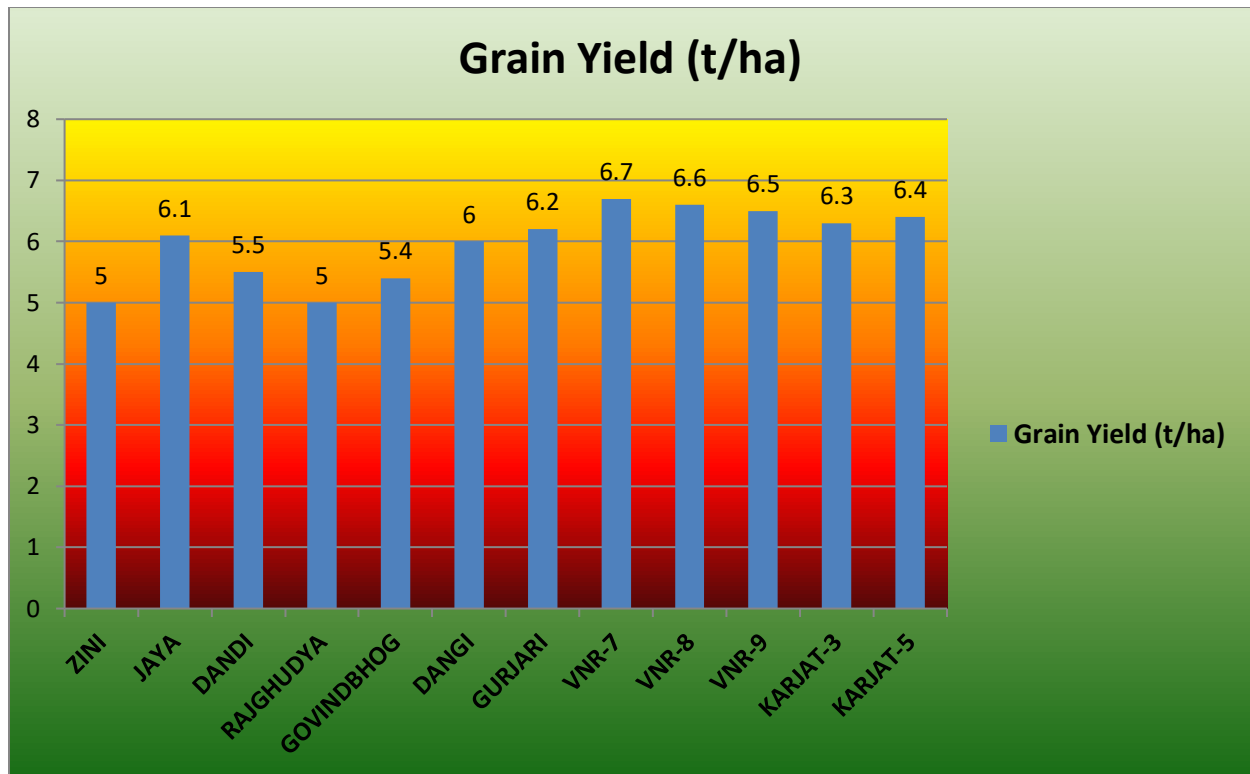
and 3.15 x 2.80 m, respectively. The twelve varieties namely T1 - Zini, T2 - Jaya, T3 - Dandi, T4 - Rajghudya, T5 - Govindbhog, T6 - Dangi, T7 - Gurjari, T8- VNR-7, T9 - VNR-8, T10 - VNR-9, T11 - Karjat-3, and T12 - Karjat-5 were replicated thrice and tested for different growth and yield parameters. The recommended dose of fertilizer (120 kg N: 50 kg P₂O₅: 50 kg K₂O) was applied plot-wise and split-wise. Every variety was transplanted at a spacing of 20 X 15 cm. Recommended management practices and plant protection measures were followed as per schedule. Observations on plant height (cm), number of productive tillers/plant at harvest (Nos.), no. of days to 50% flowering, grain test weight (1000 grains) (gm), panicle length (cm), number of grains/panicle, grain yields (q/ha) and husk weight (q/ha) were recorded.

Layout:



Results:

The plant height (129.5 cm), number of tillers per plant (17.3), number of panicles per plant (8.8), length of the panicle (28 cm), number of seeds per panicle (254.7), maximum test weight (1000 grain wt.) gm (35.3 gm) and grain yield (q/ha) was recorded highest in T8 - VNR 7 (6.7 t/ha) that all other rice varieties.



CONCLUSION:

It can be seen from the above data and confirm that the highest number of seeds per panicle, test weight (gm), grain yield (q/ha), and straw yield (q/ha) were recorded with the cv. "VNR-7" than all other varieties.