



Evaluation of different rice varieties in relation to growth indices and economics

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Abstract : A field experiment was conducted during *Kharif* season 2008 at Livestock Farm, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur (M.P.) to evaluate different rice varieties in relation to growth indices and economics. Growth analytical parameters *viz.*, crop growth rate (CGR), relative growth rate (RGR), net assimilation rate (NAR) differed significantly among the varieties as the growth stages advances and with regard to economics, the net monetary returns was maximum with variety JGL-3844 (Rs. 28487/ha) closely followed by MR-219 (Rs. 27396/ha) and WGL-3828 (Rs. 27228/ha) and B: C ratio was maximum with variety JGL-3844 (2.81) closely followed by MR-219 (2.74), WGL-32100 (2.73) and it was minimum (1.53) with Pusa basmati-1 variety.

Key Words : Rice varieties, Growth indices, Economic viability of the varieties

View Point Article : Panwar, Chetan Singh, Sharma, Chhavi and Vishwakarma, S.K. (2013). Evaluation of different rice varieties in relation to growth indices and economics. *Internat. J. agric. Sci.*, 9(1): 88-90.

Article History : Received : 01.06.2012; Revised : 28.08.2012; Accepted : 22.10.2012

INTRODUCTION

Rice (*Oryza sativa* L.) is the main staple food crop of more than half of the world's population and constitutes about 20 per cent of the total food energy intake of the world's population providing 43 per cent of calorie requirement for more than 70 per cent of Indian population. In Asia, more than 2 billion persons derive between 60 to 70 per cent of their dietary energy from rice and its by-products. Rice systems support a wide variety of plants and animals, which also helps in the supplement of the rural diets and incomes. According to FAO (2006), almost a billion households in Asia, Africa and the America depend on rice systems for their main source of employment and lively hood. The rice species *Oryza sativa* L. is popularly grown in Asia. Long, medium and round grains are the three main types of rice varieties.

The development of recent high yielding varieties (HYVs) have shown better yield potential than the previous varieties mainly due to presence of longer sink (Singh *et al.*, 2005). After the evolution of high yielding varieties with their biology, it becomes imperative to make a comparative

assessment of growth studies and their influence on grain yield to maximize the net returns. Therefore, present study was planned to find out evaluation of different rice varieties in relation to growth indices and economics.

MATERIALS AND METHODS

The field experiment was conducted at Livestock Farm, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur (M.P.) during *Kharif* season 2008. The soil was black in colour, sandy clay loam in texture, neutral in reaction with normal electrical conductivity (0.48 dS m⁻¹). The OC content were low (0.68%) in the soil and analyzing in low available N (215 kg ha⁻¹), P (9.2 kg ha⁻¹), and medium available K (318 kg ha⁻¹) contents. The experiment was laid out in randomized complete block design and replicated thrice, with 11 varieties as the treatments *viz.*, V₁: JRH-8, V₂: Jagtial Sanala, V₃: WGL-14, V₄: NPT(S) 7-1, V₅: P-1121, V₆: MR-219, V₇: MTU-1010, V₈: WGL-32100, V₉: JGL-3828, V₁₀: Pusa Basmati – 1 and V₁₁: JGL-3844. Healthy seeds of all eleven rice varieties were selected by putting the seeds in a salt solution with specific gravity of 1.08 (1.2 kg common

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