



Research Article

Effect of integrated nutrient management and land configuration on growth and yield of *Kharif* sorghum

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ABSTRACT : An experiment was conducted (2007-08) at Sorghum Research Unit Farm of Dr. Panjabrao Deshmukh Agriculture University Akola (Maharashtra), to evaluate the effect of integrated nutrient management and land configuration studies in *Kharif* sorghum [*Sorghum bicolor*.(L.)Moench] comprised of 100 per cent RDF, FYM @5.0tha⁻¹+*Azotobacter* + PSB and 50 per cent RDF + 2.5 t FYM t ha⁻¹ + *Azotobacter* + PSB. Land configuration comprised of flat bed sowing, sowing at 45 cm and opening furrows(3WAS), paired planting at 30-60cm and opening furrow (3WAS) and paired planting at 30-60cm with one row of green gram, in Factorial Randomized Block Design with three replications. The total rainfall received during *Kharif* season of 2007 was 786.8mm. Application of 50 per cent RDF+2.5t FYM t ha⁻¹ + *Azotobacter* + PSB gave at par results in case of plant growth and grain of sorghum and sowing at 45cm and opening furrow (3WAS) gave significantly higher growth and yield.

KEY WORDS : Nitrogen, Phosphorus, Potassium, *Azotobacter*, PSB, Sorghum

How to cite this Article : Shinde, B.A., Deshmukh, J.P., Nimbalkar, R.R. and Chandankar, M.M. (2012).Effect of integrated nutrient management and land configuration on growth and yield of *Kharif* sorghum, *Internat. J. Forestry & Crop Improv.*, 3 (2) : 124-126.

Article Chronical : Received : 07.08.2012; Revised : 25.09.2012; Accepted : 25.10.2012

INTRODUCTION

Sorghum [*Sorghum bicolor* (L). Moench] is the fourth major cereal food crop of the world and main staple food crop of Maharashtra. To meet out demand of food grains of ever increasing population of our country it is necessary to improve the production and productivity of food crops in the country. In order to increase production further there is no other option except to increase grain productivity by using available resources most effectively. Therefore, the judicious use of land,

labour, capital and the natural resources like temperature, radiant energy, soil moisture and nutrients by employing suitable techniques most effective way (Bhalerao, 1999).

Fertilizer use continued to play a key role in augmenting higher crop productivity. To ensure higher fertilizer use efficiency integrated nutrient management plays a vital role. Therefore, balanced combination of organic manures and chemical fertilizers are required to stimulate sustainability in production of food grains. The experiment was laid out to know the effect of nutrient management and land configuration on growth and yield of *Kharif* sorghum (Das *et al.*, 1997).

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EXPERIMENTAL METHODS

A field experiment was conducted during the rainy (*Kharif* season of 2007-08) at Sorghum Research Unit of Dr. Panjabrao Deshmukh Agriculture University Akola, (M.S.). Treatment comprised of integrated nutrient management (100% RDF, FYM @5.0 tha⁻¹+*Azotobacter* + PSB and 50% RDF + 2.5t FYM t ha⁻¹ + *Azotobacter* +PSB). Land configuration comprised of flat