



Yield and growth of okra as influenced by integrated nutrient management

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Abstract : The growth and yield contributing characters of okra exhibited their best expression in the treatment, involving substitution of 25 per cent of recommended dose of nutrients through FYM. It was closely followed by the combination of inorganic fertilizer and poultry manure in the same proportion. These two treatments superceded the treatment pertaining to the application of recommended dose of fertilizers in respect of growth and yield contributing characters and also the ultimate yield. Spraying of nitrogen (18 kg ha^{-1}) was very effective in increasing fruit yield. As a result of foliar feeding of 18 kg N ha^{-1} to okra the yield levels at 50 per cent and 75 per cent of the recommended doses were statistically equal to that recorded with the application of 100 per cent of the recommended dose of fertilizers.

Key Words : Okra, Growth, Yield, Integrated nutrient management

View Point Article : Ranjan, Ashish, Singh, K.P., Roy, R.K., Pandey, V.K. and Rai, Jhabbu (2012). Yield and growth of okra as influenced by integrated nutrient management. *Internat. J. agric. Sci.*, 8(2): 345-347.

Article History : Received : 19.11.2011; Revised : 03.03.2012; Accepted : 14.04.2012

INTRODUCTION

Okra [*Abelmoschus esculentus* (L) Moench] is an important vegetable crop which produces fruit continuously for a long time. Being high biomass producer, it has high nutritional need. Whereas, use of expensive chemical fertilizers as per requirement of the crop is not much affordable to the average farmers. In order to reduce nutritional needs especially nitrogen one, viable approach is to opt for foliar feeding of a part of nitrogen, in place of conventional top dressing. Thus present investigation has been undertaken to find out the suitable integrated nutrient management system for okra cultivation under agro-climatic condition of south Bihar Alluvial plains.

MATERIALS AND METHODS

A field experiment was conducted on sandy loam textured soil during *Kharif* season of 2001 at Vegetable Research Farm, Bihar Agricultural College, Sabour (Bihar). The soil of experimental field was neutral (pH 7.3) in reaction and containing 0.5 per cent organic carbon, 294 kg/ha available

nitrogen, 26.3 kg/ha available phosphorus and 210 kg/ha available potassium. Twelve treatments consisting of inorganic fertilizers alone or in various combinations with sources of organic matter were tested in Randomized Block Design in three replications. The treatment comprised of three organic sources *viz.*, FYM, poultry manure and cake mixture substituting 25 per cent, 50 per cent of the optimum dose of NPK thus making six treatments, which were evaluated against three varying levels of inorganic fertilizers along with one unfertilized control, besides, the experiment included two treatments involving foliar feeding of 18 kg N ha^{-1} in two spray out of 50 per cent and 75 per cent doses of nitrogen applied once each in these treatments (at an interval of 15 days after 1st top dressing). The recommended dose of NPK for okra was $100:60:60 \text{ kg : N : P}_2\text{O}_5 : \text{K}_2\text{O ha}^{-1}$. Arka Anamica was the test variety. Crop was raised with the package of practices recommended for the crop in the region.

RESULTS AND DISCUSSION

Application of nutrient in 75:25 proportion as inorganic

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