



Research Paper

Article history :

Received : 29.11.2011

Revised : 28.11.2012

Accepted : 17.12.2012

Effect of organic and inorganic fertilizers on yield and economics of okra [*Abelmoschus esculentus* (L.) Moench]

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ABSTRACT : The highest nutrient uptake in respect of N.P & K. Yield as well as net-return in okra was recorded from the treatment supplied with 25 per cent of recommended dose of nutrient through FYM. It was closely followed by the combination of inorganic in the same proportion. These two treatments and the treatment pertaining to the application of recommended dose of fertilizers in respect of NPK uptake and yield and also economics. Spraying of part of nitrogen (18 kg ha⁻¹) exhibited beneficial effect in terms of net return in comparison with full dose of inorganic nutrient.

KEY WORDS : Okra, Organic, Inorganic fertilizer, Yield, Economics

HOW TO CITE THIS ARTICLE : Ranjan, Ashish, Singh, K.P., Roy, R.K., Pandey, V.K. and Rai, Jhabbu (2012). Effect of organic and inorganic fertilizers on yield and economics of okra [*Abelmoschus esculentus* (L.) Moench], *Asian J. Hort.*, 7(2) : 586-588.

Okra [*Abelmoschus esculentus* (L.) Moench] produces fruit for long time and hence it needs nutrients supply for longer period. Increasing the use of nutrients supply for longer period efforts are being made to explore possibility of applying as many sources of organic matter as possible in order to increase coverage under organic matter application in use of high cost involving inorganic fertilizers without reduction in the economic yield. Keeping in view the above mentioned facts it was considered worth, to find out suitable integrated nutrient management system for okra cultivation.

RESEARCH 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 three organic sources *viz.*, FYM, Poultry manure and cake mixture substituting 25 per cent of the optimum dose of NPK thus making six treatments consisting, 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 applies 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 kg : : N : P₂O₅ : K₂O ha⁻¹. Arka Anamica was the test variety. Crop was raised with the package of practices recommended for the crop in the region.

RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarised under following heads:

Effect on NPK uptake:

The highest nutrient uptake in respect of N, P and K in okra was recorded from the treatment involving 25 per cent of