

Effect of inorganic and organic fertilizers on growth and yield of okra

P.S. BHARADIYA, B.M. KALALBANDI AND V.N. SHINDE

See end of the article for authors' affiliations

Correspondence to :

P. S. BHARADIYA

Department of Horticulture
Aditya Agriculture College
BEED (M. S.) INDIA

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ABSTRACT

The present investigation entitled "Effect of inorganic and organic fertilizers on growth and yield of okra" was conducted at the farm of Horticultural Research Scheme, Research Sub-campus, Marathwada Agricultural University, Parbhani (M.S). The treatment of 50 per cent RDF plus 50 per cent N through neem cake reported more plant height, no. of leaves per plant, days required for initiation of flowering, days required for 50 per cent flowering, no. of fruits per plant, green fruit yield per plant, total yield, weight of individual fruit, fruit length and diameter, while least values for all above characters were recorded in control.

Key words : Organic, Inorganic, Growth, Yield, Okra.

Okra has an important place among *kharif* and summer season vegetables. It is cultivated for its immature fruits, which are generally cooked as vegetable. Okra responds very well to nutrient management. Due to high cost of inorganic fertilizers and residual effects of chemicals there is increasing trend towards organic farming. Use of organic manures occupies a significant place in today's agriculture. Higher concentration of neem oil offer better supply of nutrients, give antifeedant effects and also prove as larval repellent for insect pests. Vermicompost was also reported to improve soil physical properties like soil aggregates, improvement in drainage, porosity and aeration, which results in improvement in the yield attributes and ultimately results in increased yield. Production of vegetables through organic farming has high demands in export and some farmers have started organic farming on trial and error method. Keeping in view, the importance of inorganic and organic fertilizers and compost via neem cake and vermicompost in sustainable vegetable production, a field experiment was conducted to study the effect of inorganic and organic fertilizers on growth and yield of okra.

MATERIALS AND METHODS

The present investigation on effect of organic and inorganic fertilizers on growth and yield of okra was carried out at Horticultural Research Farm at MAU, Parbhani, during the year 2003-04. The experiment was laid out in Randomized Block Design with seven treatments replicated thrice. The 'Parbhani Kranti' variety was selected and planted at a spacing of 45 cm x 30 cm. The treatments details are
T₁ : 100 per cent RDF (Recommended dose of

fertilizers) *i.e.* 100:50 :50 kg N.P.K.per ha ;

T₂ : 100 percent N through vermicompost (6 MT/ha);

T₃ : 100 per cent N through neem cake (2 MT/ha);

T₄ : 50 per cent RDF+50 per cent N through vermicompost;

T₅ : 50 per cent RDF+50 per cent N through neem cake;

T₆ : 50 per cent RDF+25 per cent N through vermicompost +25 per cent N through neem cake;

T₇ : control *i.e.* no fertilizers.

The biometric observations, on plant height (cm), no of leaves per plant, days to flower initiation, days to 50 per cent flowering, no. of pods per plant, yield per plant (gm), total yield (Q/ha), weight of individual fruit (gm), length of fruit (cm) and diameter of fruit (cm) were recorded. The data of record was subjected to statistical analysis.

RESULTS AND DISCUSSION

The results from Table 1 indicate that organic source of nutrients along with inorganic fertilizers had better response in respect to all vegetative characters of plant growth. The treatment of 50 per cent RDF along with 50 per cent N through neem cake was found more effective in producing increased plant height (182.27 cm) and more number of leaves per plant (17.41) as compared to rest of the treatments under study. The lowest plant height (11.34 cm) and least number of leaves per plant (11.25) were recorded in control. The reason for increased plant height and number of leaves per plant could be attributed to the solubilization effect of plant nutrients by addition of neem cake and vermicompost leading to increased uptake of N.P.K. as has been reported by Subbiah *et. al.* (1982). Data pertaining to days to flower initiation and days to 50 per cent flowering indicated that the different treatments