

Effect of different sources of nitrogen on growth and yield of okra (*Abelmoschus esculentus* L. Moench) var. ARKA ANAMIKA

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ABSTRACT

The vegetative growth parameters viz., plant height, plant spread, number of leaves per plant and leaf area have been significantly influenced by different sources of nitrogen. The plant height was maximum (117.63 cm) in application of 100% N through neem cake. Similarly the growth in terms of plant spread, number of leaves per plant and leaf area was significantly higher in the treatment T₆ (100% N through neem cake). As regards to the yield parameters, all yield contributing characters like weight and length of fruit, yield per plant and yield per hectare were significantly influenced due to different treatments tried. The treatment T₆ recorded significantly maximum weight and length (17.55 g and 17.68 cm, respectively) of okra fruit. The yield per plant was maximum (217.09 g) with treatment T₆. The highest yield (126.57 q/ha) was obtained in treatment 100% N through neem cake.

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Key words : Growth, Yield, Vermicompost, Neem cake

INTRODUCTION

Okra or bhendi [*Abelmoschus esculentus* (L.) Monech] is mainly cultivated for its immature fruits which are used as vegetable. It is a good source of vitamin A, B and also contain C. It is rich in protein, iodine, calcium, potassium and other mineral matters. Okra is said to be very useful against genitourinary disorders, spermatorrhoea and chronic dysentery (Nadkarni, 1972). Besides its use as vegetable, okra has some industrial importance. Matured fruits and stems containing crude fibre are used in the paper industry. Okra produces fibre up to 2.2 to 7.2 per cent (Singh, 1998). Organic manures play an important role in quality production of vegetable crops. Shankaran (1996) and Kannaiyan (2002) reported that organically grown products are high in quality. (Venkataratham and Purushotham, 2002) found increased yield, shelf life, quality, etc. in organically grown vegetables. Continuous and unbalanced use of chemical fertilizers are leading to decrease in nutrient uptake efficiency of plants resulting in decrease in crop yield (Maurya and Beniwal, 2003). There are also problems of loss of applied fertilizers through leaching, volatilization and de-nitrification of nitrogen and fixation of phosphorus. Among the different organic manures used, farm yard manure is a commonly used manure, plays an additional role than its capacity to contribute N, P, K. Therefore, keeping in view of the above points, an experiment was conducted to decide proper combination of organic manure and inorganic fertilizers for better growth and yield of

okra var. ARKA ANAMIKA.

MATERIALS AND METHODS

The field experiment was conducted at Department of Horticulture, Marathwada Agricultural University, Parbhani with variety Arka Anamika in monsoon 2008-09 to study effect of different sources of nitrogen on growth and yield of okra [*Abelmoschus esculentus* (L.) Moench]. The experiment was laid out in simple Randomized Block Design with three replications and seven treatments. In this investigation the crop was applied with following nutrient sources T₁ (100% N through RDF), T₂ (100% N through sheep manure), T₃ (100% N through FYM), T₄ (100% N through vermicompost), T₅ (100% N through poultry manure), T₆ (100% N through neem cake), T₇ (control- without any fertilizer). Observations were recorded and statistically analyzed as per method given by Panse and Sukhatme (1967).

RESULTS AND DISCUSSION

The findings of the present study as well as relevant discussion have been summarized under following heads:

Effect on vegetative growth:

The vegetative growth parameters viz., plant height, spread of plant, number of leaves per plant, leaf area have been significantly influenced by different nitrogen sources (Table 1).

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