



Effect of nitrogen and pinching on growth and yield of African marigold

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ABSTRACT

Present investigation was carried out to study the effect of nitrogen and pinching on growth, yield and quality of African marigold during *Rabi* season of the year 2009-2010. The treatments comprised of the four nitrogen levels viz., 0 kg N ha⁻¹, 50 kg N ha⁻¹, 100 kg N ha⁻¹ and 150 kg N ha⁻¹ and four pinching treatments viz., no pinching, 30 DAT, 45 DAT and double pinching at 30 and 45 DAT. The results obtained in the present investigation indicated that, the growth parameters in terms of height of plant was recorded maximum in 150 kg N ha⁻¹ and no pinching, whereas, the maximum stem diameter, number of primary branches and spread of plant were recorded with 150 kg N ha⁻¹ and pinching at 30 DAT. As regards yield parameters, the maximum flower yield plant⁻¹ and hectare⁻¹ were recorded with 150 kg N ha⁻¹ and pinching at 30 DAT.

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Floriculture is an art and knowledge of growing flowers to perfection. Flower gives the feeling of peace and tranquility, reduces stress and sense of esteem. The total area under floriculture crop in India is 1, 61,000 ha with production of 8, 70,000 MT of loose flowers and productivity of 5.4 MT/ha and India's export of floriculture products is of 16, 54,282.66 MT with the value of Rs.1,59,332.63 lakh (Anonymous, 2008).

Through marigold flowers have special importance during festival days especially on Diwali and Dashehara, there is a constant demand for flowers throughout the year for various functions, festivals, marriages and floral decoration. The marigold plants are highly useful for suppressing the population of nematodes in the field also. For the production of economical yield of better quality of marigold flowers, it is necessary to adopt a proper agro technique by applying important nutrients in requisite quantity and special horticultural practices.

The present investigation was undertaken to study the effect of nitrogen and special horticultural practice like pinching for increasing yield and quality of flowers.

MATERIALS AND METHODS

The investigation was carried out at Horticulture Section, College of Agriculture, Nagpur on marigold variety "African Double Orange". Seed of marigold were sown on raised beds in the month of October 2009 and the uniform sized and healthy seedlings were selected

for transplanting which was done on 23rd Nov. 2009. Treatment wise different nitrogen levels viz., 0 kg N, 50 kg N, 100 kg N, and 150 kg N ha⁻¹ were applied in the form of urea. A constant recommended dose of P₂O₅ and K₂O was applied through single super phosphate and muriate of potash according to the plot size, respectively.

Pinching was done by knipping approximately three cm of terminal growing shoots. The single pinching was done at 30th day and at 45th day of transplanting. However, the double pinching was done at 30th day and repeated at 45th day of transplanting. Five plants per net plot were randomly selected in each treatment from all the replications for recording the various observations.

RESULTS AND DISCUSSION

The results obtained from the present investigation are summarized below :

Effect of nitrogen:

The data presented in Table 1 revealed that, significantly maximum height of plant (71.40 cm), stem diameter (1.38 cm), number of primary branches (19.27) and spread of plant (36.98 cm²) were recorded in the treatment N₄ which was followed by the treatment N₃, whereas, minimum height of plant (56.83 cm), stem diameter (1.12 cm), number of primary branches (14.95) and spread of plant (26.00 cm²) were noted in the treatment N₁. The increase in vegetative growth