

## Effect of N, P, K and biofertilizers on plant growth and flower yield of African marigold (*Tagetes erecta* L.) cv. Pusa Narangi Gainda

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**ABSTRACT :** The present experiment was conducted to determine the effect of different doses of N<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O and biofertilizers on growth and flower yield of African marigold (*Tagetes erecta* L.) at the Department of Horticulture, Sam Higginbottom Institute of Agriculture Technology and Science, Allahabad, (U.P.), India, during the rainy season of 2012. Eleven treatments were included in the trial viz; T<sub>0</sub> [Control]; T<sub>1</sub> [*Azotobacter* @ 2 kg/ha, *Azospirillum* @ 2 kg/ha and VAM @ 10 kg/ha]; T<sub>2</sub> [100% NPK (100:100:100 kg/ha of NPK)]; T<sub>3</sub> [75% N, P, K and *Azotobacter* @ 2 kg/ha]; T<sub>4</sub> [75% N, P, K and *Azospirillum* @ 2 kg/ha]; T<sub>5</sub> [75% N, P, K and VAM @ 10 kg/ha]; T<sub>6</sub> [75% N, P, K, *Azotobacter* @ 2 kg/ha, *Azospirillum* @ 2 kg/ha and VAM @ 10 kg/ha]; T<sub>7</sub> [50% N, P, K and *Azotobacter* @ 2 kg/ha]; T<sub>8</sub> [50% N, P, K and *Azospirillum* @ 2 kg/ha]; T<sub>9</sub> [50% N, P, K and VAM @ 10 kg/ha] and T<sub>10</sub> [50% N, P, K, *Azotobacter* @ 2 kg/ha, *Azospirillum* @ 2 kg/ha and VAM @ 10 kg/ha] were tested in three replications. The experimental design was randomized block design. The results revealed that N, P, K and biofertilizers treatments had significant response on plant height, plant spread, number of branches per plant, number of leaves per plant, flower yield per plant, flower yield per plot and flower yield per hectare. The maximum plant height (107.17 cm), plant spread (80.12 cm), number of branches per plant (21.50), number of leaves per plant (106.17), flower yield per plant (458.83 g), flower yield per plot (4129.50 g) and flower yield per hectare (41.30 t/ha) were produced by the treatment T<sub>6</sub> [75% N, P, K, *Azotobacter* @ 2 kg/ha, *Azospirillum* @ 2 kg/ha and VAM @ 10 kg/ha]. It was the best treatment for good vegetative as well as reproductive growth.

**Key Words:** N, P, K, biofertilizers, plant growth, flower yield and African marigold.