



Research Paper

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Influence of integrated nutrient management on growth, flowering and yield parameters of marigold (*Tagetes erecta* L.) cv. PUSA BASANTI GAINDA

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ABSTRACT : The field experiment was conducted at Horticultural Research Farm of Gochar Mahavidyalaya Rampur Maniharan, Saharanpur, U.P. during 2010-2011. The ten treatments T₁ Control (no fertilizer or manure), T₂ 100 per cent recommended dose (120 kg N, 100 kg P and 100 kg K/ha) + 100 per cent R.D. of FYM (250 q/ha), T₃ 100 per cent R.D. of NPK + R. D. of vermicompost (160 q/ha), T₄ 100 per cent R.D. of NPK + R.D. of *Azotobacter* (6.6 kg/ha), T₅ 80 per cent R.D. of NPK (96 kg N, 80 kg P and 80 kg K/ha) + vermicompost (128 q/ha), T₆ 80 per cent R.D. of NPK (96 kg N, 80 kg P and 80 kg K/ha) + *Azotobacter* (5.28 kg/ha), T₇ 80 per cent R.D. of NPK (96 kg N, 80 kg P and 80 kg K/ha) + vermicompost (128 q/ha) + *Azotobacter* (5.28 kg/ha), T₈ 60 per cent R.D. of NPK (72 kg N, 60 kg P and 60 kg K/ha) + vermicompost (96 q/ha), T₉ 60 per cent R.D. of NPK (72 kg N, 60 kg P and 60 kg K/ha) + *Azotobacter* (3.96 kg/ha), T₁₀ 60 per cent R.D. of NPK (72 kg N, 60 kg P and 60 kg K/ha) + vermicompost (96 q/ha) + *Azotobacter* (3.96 kg/ha) were evaluated in Randomized Block Design with three replications. The experimental findings revealed that the treatment T₇ (80% R.D. of NPK (96 kg N, 80 kg P and 80 kg K/ha) + vermicompost (128 q/ha) + *Azotobacter* (5.28 kg/ha) showed better response to plant growth, flowering and its attributes.

KEY WORDS : N.P.K., Biofertilizer, Growth, Flowering, Yield, Marigold

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Marigold (*Tagetes erecta* L.), which occupies a prominent place in ornamental horticulture, is one of the commercially exploited flower crops belonging to the family Asteraceae. It is grown as an annual in an herbaceous border and is also ideal as filler for newly planted shrubberies to provide colour and to fill the spaces. Flowers are commonly extensively used for decoration in various religious and social functions. The major components of integrated nutrient supply system are fertilizers, farm yard manures, vermicompost, neem cake, green manures' *Azotobacter*, press mud etc. Therefore, the integrated use of nutrients is the need of the hour. The use of organic manures and bio-fertilizers along with the balanced use of chemical fertilizers is known to improve physico-chemical and biological properties of soil, besides improving the efficiency of applied fertilizers. The potential of vermicompost to supply nutrients

and to support beneficial microbes is being realized recently with the advent of vermiculture. Integrated nutrient management in marigold is comparatively a new aspect of research. Limited research work has been done on the balance use of different sources of nutrient in this important flowering crop (Rajadurai *et al.*, 2000).

RESEARCH METHODS

The field experiment was conducted at Horticultural Research Farm of Gochar Mahavidyalaya, Rampur Maniharan, Saharanpur, U.P. during 2010-2011. The ten treatments T₁ Control (no fertilizer or manure), T₂ 100 per cent recommended dose (120 kg N, 100 kg P and 100 kg K/ha) + 100 per cent R.D. of FYM (250 q/ha), T₃ 100 per cent R.D. of NPK + R. D. of vermicompost (160 q/ha), T₄ 100 per cent R.D. of NPK + R.D. of *Azotobacter* (6.6 kg/ha), T₅ 80 per cent R.D. of NPK (96 kg N,