**RESEARCH ARTICLE**

# RESPONSE OF MARIGOLD (*TAGETES ERECTA* L.) CV. DOUBLE ORANGE TO LIQUID FORMULATIONS OF EM CONSORTIA WITH GRADED LEVELS OF NPK ON FLOWER YIELD, QUALITY AND XANTHOPHYLLS YIELD

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**Abstract:** The present investigation entitled "response of Marigold (*Tagetes erecta* L.) cv. Double Orange to liquid formulations of effective microbial consortia with graded levels of NPK on flower yield and quality traits" was carried out at Department of Horticulture, College of Agriculture, Shivamogga, Karnataka, during 2014-15. The experiment was laid out in Randomized Block Design with 15 treatments replicated thrice. Studies showed significant effect on flower weight (8.37 g), flower diameter (8.04 cm), number of petals per flower (323.12), number of flowers per plant (91.34), flower yield per plant (572.86 g), flower yield per plot (20.62 kg) and flower yield per hectare (12.70 t) was recorded in the treatment which received 75 % RDF + *Azotobacter* + *Bacillus megaterium* + *Frateuria aurentia* ($T_{14}$). Petal meal yield per kilogram of fresh flower (90.84 g), petal meal yield per hectare (1156.40 kg), xanthophyll content (42.21 g) per kilogram of petal meal and xanthophyll yield per hectare (48.61 kg) were also recorded maximum with the same treatment *i.e.*, $T_{14}$ (75 % RDF + *Azotobacter* + *Bacillus megaterium* + *Frateuria aurentia*) compared to cent per cent RDF.

**Keywords:** Marigold, EM consortia, Flower yield, Quality, Xanthophyll

## REFERENCES

**Alam, A. U., Cough, I. R. and Creger, C. R.** (1968). Fatty acid composition of the xanthophyll esters of *Tagetes erecta* petals. *Lipids*, **3**: 183.

**Anonymus** (2014). Indian Horticulture Database, National Horticulture Board, Gurgaon. pp. 286.

**Anuradha, K., Pampapathy, K. and Narayanan, N.** (1990). Effect of nitrogen and phosphorous on flowering, yield and quality of Marigold. *Indian J. Hort*., **47**(3): 353-357.

**Bosali, M., Kumar, P. and Kumar, S.** (2014). Impact of integrated nutrient management on post-harvest and corm characters of Gladiolus cv. Novalux. *Ann. Hort*., **7**(2): 109-114.

**Chaudhari, C. K., Jadav, R. G. and Masu, M. M.** (2010). Effect of biofertilizers and their combinations with nitrogen fertilizer on growth, yield and quality of Rose (*Rosa damascene* L.). *The Asian J. Hort*., **4**(2): 373-376.

**Jadhav, P. B., Singh, A., Mangave, B. D., Patil, N. B., Patel, D. J., Dekhane, S. S. And Kireeti, A.** (2014). Effect of organic and inorganic fertilizers on growth and yield of African marigold *(Tagetes erecta* L.*)* cv. Pusa Basanti Gainda. *Ann. Biol. Res.*, **5**(9): 10-14.

**Kirar, K. P. S., Lekhi, R., Sharma, S. and Sharma, R.** (2014). Effect of integrated nutrient management practices on growth and flower yield of China aster [*Callistephus chinensis* (L.) Ness] cv. Princess. *Excellent Publishing House*, pp. 234-237.

**Naik, B. H.** (2003). Stability analysis and standardization of production technology for flower and xanthophylls yield in Marigold (*Tagetes* spp.) *Ph. D. Thesis*, Uni. Agric. Sci., Dharwad, Karnataka (India).

**Panchal, R. V., Parekh, N. S., Parmar, A. B. and Patel, H. C.** (2010). Effect of biofertilizers and nitrogenous fertilizers on growth, flowering and yield of white Chrysanthemum (*Chrysanthemum coronarium* L.) under middle Gujarat agro climatic condition. *The Asian J. Hort*., **5**(1): 22-25.

**Patanwar, M., Sharma, G., Banjare, C., Chandravanshi, D. and Sahu, E.** (2014). Growth and development of Chrysanthemum (*Dendranthem grandiflora*tzvelev) as influenced by integrated nutrient management. *An Int. J. Environ. Sci.*, **4**: 459-462.

**Roelants, A.** (1973). Phosphorus fertilization of Carnation cv. Scania Red. *The effect of production and quality. Revue de I Agric.*, **26**(5): 1011-1026.

**Scott, M. I., Ascarelli, I. and Olson, G.** (1968). Studies on egg-yolk pigmentation. *Poultry Sci.*, **47**: 863.

**Sheergojri, G. A., Neelofar, Rather, Z. A., Khan, F. U., Nazki, I. T. and Qadri, Z. A.** (2013). Effect of chemical fertilization and bio-inoculants on growth and flowering of Dahlia (*Dahlia variabilies* Desf.) cv. 'Pink Attraction'. *Appl. Biol. Res*., **15**(2): 121-129.

**Singh, A. K.** (2007). Response of integrated nutrient management on growth and flowering attributes in Rose. J. Orn. Hort., 10(1): 58-60.

**Sunderaraju, N., Nagaraju, S., Venkataramu, M. N. and Jagannath, M. R.** (1972). *Design and analysis of field experiments*. Misc. Series No. 22, Uni. Agric. Sci., Bangalore, Karnataka (India).

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**Swaroop, K.** (2011). Influence of biofertilizers on growth and productivity of flower and seed yield of Marigold cv. Pusa Narangi Gainda. *J. Orn. Hort.*, **14**(3&4): 45-48.

**Thumar, B. V., Barad, A. V., Neelima, P. and Nilima, B.** (2013). Effect of integrated system of plant nutrition management on growth, yield and flower quality of African marigold (*Tagetes erecta* L.) cv. Pusa Narangi. *The Asian J. Hort.*, **8**(2): 466-469.