

INFLUENCED BY EFFECTIVE MICROBIAL CONSORTIA ON GROWTH AND FLOWERING OF MARIGOLD (*TAGETES ERECTA* L.) WITH GRADED LEVELS OF NPK

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Abstract: A field experiment was conducted to know the field response of Marigold (*Tagetes erecta* L.) cv. Double Orange to liquid formulations of effective microbial consortia with graded levels of NPK on growth and flowering at Department of Horticulture, College of Agriculture, Shivamogga, Karnataka during 2014-15. The experiment was laid out in randomized complete block design with 3 replications and 15 treatment combinations, among 15 treatment combinations, 100 % RDF + *Azotobacter* (T₃) recorded significantly maximum plant height, stem girth, internodal length, number of leaves, leaf area, LAI and chlorophyll content. However, the maximum number of primary and secondary branches per plant was observed in the treatment which received 75 % RD'N' + *Azotobacter* + 100 % RD'P' and 'K' (T₂) and 75 % RDF + *Azotobacter* + *Bacillus megaterium* + *Fratureia aurantia* (T₁₄), respectively. Significantly maximum plant spread was recorded in T₁₁ which received 100 % RDF + *Azotobacter* + *Fratureia aurantia*. The plants treated with 75 % RD'N' + *Azotobacter* + 100 % RD'P' and 'K' (T₂) reported significantly maximum flowering duration of 71.17 days over (T₁) 100 % RDF.

Keywords: Marigold, EM consortia, Growth, Flowering

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.
- Bharathiraja, B., Jayamuthunagai, J., Arulkirubakaran, M. and Chandran, M. (2012). Effect of liquid based microbes in the enhancement of nutrients and metabolic pathways in *Lycopersicon esculentum*. *Trends Biosci.*, **5**(4): 274-278.
- Bhat, D. J., Dogra, S., Pandey, R. K., Sharma, J. P. and Jamwal, S. (2010). Influence of integrated nutrient management on growth, flowering and yield of African marigold cv. Pusa Narangi. *Environ. Ecol.* **28**(1): 466-468.
- Bhatia, S. and Gupta, Y. C. (2007). Studies on use of bio-fertilizers in Carnation (*Dianthus caryophyllus* Linn.) flower production. *J. Orn. Hort.*, **10**(2): 131-132.
- 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.
- Jayamma, N., Jagadeesh, K. S. and Patil, V. S. (2008). Growth and flower yield of Jasmine (*Jasminum auriculatum*) as influenced by biofertilizers and graded doses of chemical fertilizers. *J. Orn. Hort.*, **11**(4): 275-280.
- 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.
- Kumar, D., Singh, B. P. and Singh, V. N. (2009). Effect of integrated nutrient management on growth, flowering behavior and yield of African marigold (*Tagetes erecta* L.) cv. African Giant Double Orange. *J. Hort. Sci.*, **4**(2): 134-137.
- Parolekar, S. S., Chawla, S. L., Ahlawat, T. R., Bhagele, R. D. and Gurjar, R. A. (2012). Response of biofertilizers and their combination with different levels of chemical fertilizers on Tuberose cv. Prajwal. *J. Orn. Hort.*, **15**(3&4): 227-232.
- Qasim, M., Younis, A., Zahir, Z. A., Riaz, A., Raza, H. and Tariq, U. (2014). Microbial inoculation increases the nutrient uptake efficiency for quality production of *Gladiolus grandiflorus* L. *Pak. J. Agri. Sci.*, **51**(4): 875-880.
- 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 variabilis* Desf.) cv. 'Pink Attraction'. *Appl. Biol. Res.*, **15**(2): 121-129.
- 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).
- 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.

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