Effect of Maleic Hydrazide and Gibberellic Acid on Growth and Yield of African Marigold (*Tagetes erecta* L.) CV. Calcuttia Orange

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Abstract

A field experiment was carried out during the month of August – December, 2020 at Floriculture Development Center, Godawari. The experiment was conducted in randomized block design with seven treatments comprising of 3 levels each of Gibberellic Acid (GA3) (100, 200, 300 ppm) and Maleic Hydrazide (MH) (200, 300, 400 ppm) replicated thrice with an objective to access the the impact of MH and GA3 on production and productivity of African marigold. The foliar spray of the growth regulators were done at 30 DAT. The result revealed that, vegetative growth viz. plant spread (2083 cm2), stem diameter (1.2 cm), number of primary branches (8.13) and number of secondary branches (28.27) was recorded significantly maximum with the treatment of MH at 400 ppm. The plant height (56.33 cm) was found to be maximum when treated with GA3 at 200 ppm whereas MH at 300 ppm resulted in highest number of leaves (139.26). First flowering (45 days), 50 % flowering (50 days), full bloom (54 days), maximum flower weight (11.33 gm) and maximum flower diameter (8.10 cm) were achieved with GA3 at 200 ppm. However, the maximum number of flowers (29) was obtained by the foliar spray of MH at 400 ppm. MH at 400 ppm resulted in maximum yield of the flowers (23.528 mt/ha) followed by GA3 at 200 ppm (23.079 mt/ha). The experiment concluded that MH at 400 ppm and GA3 at 200 ppm contributed to increased growth, flowering and yield of the crop.

Keywords: African marigold, Maleic hyrdrazide, Gibberellic Acid, Foliar spray