



Research Paper

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Effect of different levels of cycocel and maleic hydrazide on growth and flowering of African Marigold (*Tagetes erecta* L.) cv. PUSA NARANGI GAINDA

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ABSTRACT : A field experiment was carried out at floriculture research unit in Horticulture Department of Allahabad Agriculture Institute Deemed University, Allahabad during the months of October to February (2004-2005). Plant growth retardants cycocel (1000, 1500, 2000ppm) and maleic hydrazide (500, 1000, 1500 ppm) as foliar spray were applied on African Marigold cv. PUSA NARANGI GAINDA. cycocel at 2000 ppm resulted in the maximum reduction of plant height (58.15 cm), higher number of branches (15.05), leaves (205.20) and spread (49.68 cm) followed by maleic hydrazide at 1000ppm. The flower bud appearance was delayed with spraying of cycocel at 2000ppm (46.14days) and maleic hydrazide at 1000 ppm (44.00days) as compared to control (40.33days). Cycocel at 2000 ppm resulted in increased number of flowers (27.20), average weight (11.89), flower size (7.33 cm). However, the flowering duration was extended by the spraying of cycocel and maleic hydrazide. Flower yield in terms of t/ha was maximum with 2000 ppm cycocel (26.95 t/ha) followed by maleic hydrazide at 1000ppm which was (22.17 t/ha).

KEY WORDS : Cycocel, Maleic hydrazide, Marigold, Growth, Flowering

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African Marigold is a popular flower crop grown throughout India. It is a hardy and quick growing plant; because of excessive vegetative growth Marigold plants become tall and lanky which results in poor flower bearing and hence, lower flower yield. In the recent past, for cultivation of shrubs and annuals, use of chemicals finds extensive use for various purposes. The chemicals help in controlling the plant height, time of flowering and size of flowers when applied at right time with proper concentration. The size of plant can be regulated with use of growth regulators which are known as growth retardants. The reason for use of growth retardants is quite obvious as they play an important role in reducing of internodal length by blocking synthesis of gibberellins. The plant remains small and compact with dark green foliage and yield bigger size of flowers.

RESEARCH METHODS

The experiment was carried out at floriculture research unit in Horticulture department of Allahabad Agricultural Institute- deemed University, Allahabad during the period of October to February 2004 to 2005. The experiment was laid out in Randomized Block Design with 7 treatments replicated thrice and recommended dose of 120:80:80 N, P and K was applied. Foliar application of freshly prepared cycocel (1000, 1500, 2000ppm) and maleic hydrazide (500, 1000, 1500ppm) were sprayed on the plants at 30 days after transplanting. Cultural practices viz., irrigation, weeding and hoeing were attended uniformly. The unit plot size was 1.08 sq m. The plants were spaced at 40 cm between the rows and 30cm between the plants with a planting density of 9 plants per plot. The treatments were allocated randomly to a unit plot in each replication. Observations were taken at 20 days interval from 3