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RESEARCH PAPER

Effect of foliar application of growth regulators and chemicals on growth, flowering and vase life of ornamental sunflower genotypes (*Helianthus annuus* L.)

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Abstract : Foliar application of GA_3 @150ppm in HAM-196 and M-17R genotypes resulted in higher plant height and longer flower stalk length, respectively. Increase in number of flower per plant and flower diameter was observed in HAM-196 and M-17R genotypes sprayed with NaSio4 @ 300ppm. However spraying of GA_3 @150ppm increased the postharvest life in genotype M-17R.

Key Words : Growth regulators, Sunflower, Gibberlic acid, Benzyl adenine, Sodium silicate, Calcium, Sulphate

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INTRODUCTION

Ornamental sunflower (*Helianthus annuus* L.) is one of the most important and popular speciality cut flower of the world and is native to North America, where it was grown by indigenous people for food and medicinal purposes. It was first introduced in Europe as an ornamental crop but later years it become a very important oilseed crop around the world. In early 1990s, it regained popularity as a cut flower. Plant growth regulators play an important role and are being used for increasing growth and yield. In spite of its importance, very little information is available on effect of foliar application of growth regulators and chemicals on growth, flowering and vase life of ornamental sunflower. Hence, an experiment was laid out to study the various effects of growth regulators and chemicals on ornamental sunflower.

MATERIALS AND METHODS

The experiment was conducted during 2009-2010 in AICRP (sunflower), Zonal Agricultural Research Station, University of Agricultural Sciences, GKVK, Bengaluru on ornamental sunflower genotypes. Two to three seeds per hill were sown at 30x60cm spacing replicated thrice in split plot design with three genotypes *viz.*, P-70R, HAM-196 and M-17R. In total 13 treatments *viz.*, T_1-Gibberlic acid @ 50ppm, T_2-Gibberlic acid @ 100ppm, T_3-Gibberlic acid @ 150ppm, T_4-Benzyl adenine @ 200ppm, T_5-Benzyl adenine @ 300ppm, T_6-Benzyl adenine @ 400ppm, T_7-Sodium silicate @ 200ppm, T_8-Sodium silicate @ 300ppm, T_9-Sodium silicate @ 400ppm and T_{10}-Calcium sulphate @ 200ppm, T_{11}-Calcium sulphate @ 300ppm, T_{12}-Calcium sulphate @ 200ppm and T-$_{13}$ untreated control. The chemical and growth regulator treatments were given through foliar application at ten days intervals. The parameters *viz*, plant height, number of leaves, number of flowers per plant, flower stalk length, flower diameter and vase life were recorded.

RESULTS AND DISCUSSION

The effect of foliar application of growth and chemicals

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