



Research Paper

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Effect of integrated nutrient management on growth and floral parameters in gladiolus (*Gladiolus hybridus* L) cv. AMERICAN BEAUTY

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ABSTRACT : A field experiment effect of integrated nutrient management on growth and floral parameters in gladiolus (*Gladiolus hybridus* L) cv. AMERICAN BEAUTY was carried out at the Department of Horticulture, University of Agricultural Sciences, GKVK, Bangalore during both *Kharif* and *Rabi* seasons of 2007-08 and 2008-09. The experiment was laid out in Randomized Block Design with eleven treatments replicated thrice. The results of the experiment revealed that among the different treatments, Application of 75 per cent RDF + VC (3 t/ha) + VAM (10 kg/ha) + *Azospirillum* (10 kg/ha) + *Trichoderma harzianum* (5 kg/ha) (T₁₁) resulted in maximum plant height (116.28 and 118.60 cm). Number of leaves per plant (9.79 and 10.95), leaf area (519.32 and 1296.07 cm²), minimum number of days taken for spike emergence (52.31 and 48.49) and number of days taken for first flower bud pening on a spike (58.74 and 54.56) in *Kharif* and *Rabi* seasons, respectively. Similarly, maximum number of florets per spike (12.00 and 13.67), spike length (100.26 and 129.79 cm) and spike girth (1.07 and 1.10cm) were recorded both during *Kharif* and *Rabi* seasons, respectively.

KEY WORDS : Integrated nutrient management, Spike, Spacing, Gladiolus

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Gladiolus (*Gladiolus hybridus* L.) is one of the most popular ornamental bulbous plants grown in many parts of the world for its bewitching flowers. Internationally it is known for its dazzling florets colour, sturdy spike, size and attractive appearance and keeping quality and occupies fifth position in the international trade. It is native to South Africa and ranks second among the bulbous cut flowers in the Netherlands market. Popularity of this crop as a cut flower, it is grown through out the world. It occupies fifth place in the international floriculture trade and potential money spinner for floriculture industry with an annual production about 120 million spikes per year.

At present, the productivity and quality of cut flowers produced in gladiolus are not to the expectations in the competitive market. The major causes for poor production are lack of balanced nutrition, poor disease management, irrigation system, and timely non-adoption of other production

technologies. The productivity, quality of spikes and corms produced are known to influence by several factors such as cultivar, agro techniques, nutrition, disease incidence, plant density, method of planting etc. There is need to standardize agro techniques for higher productivity and quality. The crop benefiting microbial inoculants generally called as bio-fertilizers help in augmenting the crop productivity through effective mobilization of nutrients to the crop. These beneficial microorganisms are also known to secrete plant growth promoting substances like indole acetic acid, gibberlic acid, cytokinins, vitamins which are known to influence on the crop growth. Among the biofertilizers, *Azospirillum*, VAM (Vesicular arbuscular mycorrhizae) and *Trichoderma* are important. *Azospirillum* is asymbiotic bacterium, it lives in association with the host and fixes atmospheric nitrogen. Biofertilizers have a supplementary nutritive role in productivity and by their usage; chemical fertilizers can be reduced to certain extent