



Influence of bio-fertilizers and chemical fertilizers on growth, flowering and fruit characters of guava (*Psidium guajava* L.) cv. ALLAHABAD SAFEDA

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Abstract : The present investigation was carried out during *Kharif-Rabi* season of the year 2011 at Horticultural Research Farm, Department of Horticulture, B. A. College of Agriculture, Anand Agricultural University, Anand. There were twenty treatments and the treatments of comprising organic fertilizers (FYM), bio-fertilizers (*Azotobacter*, PSB), three levels of nitrogen, two levels of phosphorus and 250 g K_2O /ha in all trees excluding absolute control were tried in Randomized Block Design with three replications. The results revealed that treatment of 75% N + 75% P_2O_5 + 100% K_2O + *Azotobacter* 5ml/tree + PSB 5ml/tree obtained significantly maximum tree height (3.80 m), girth of primary branch (28.67 cm), East West tree spread (5.20 m), North South tree spread (5.13 m) at harvesting stage, minimum number of days for flowering (32.33 days), maximum number of flowers per branch (25.33), fruit set per branch (90.20%) and fruit retention (92.96%), fruit diameter (10.07 cm), fruit weight (215.06 g) and pulp weight (193.44 g) while number of primary and secondary branches were recorded non-significant effect at harvesting stage. the treatment of 100% N + 75% P_2O_5 + 100% K_2O + *Azotobacter* 5ml/tree + PSB 5ml/tree recorded minimum peel weight (15.00 g), minimum number of seeds (111.33) and in treatment of 75% N + 100% P_2O_5 + 100% K_2O + *Azotobacter* 5ml/tree + PSB 5ml/tree recorded minimum weight of seeds (4.0 g).

Key Words : Biofertilizers, Chemical fertilizers, Growth, Flowering, Yield, Guava

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INTRODUCTION

Guava (*Psidium guajava* L.) is one of most important fruit crop belongs to the family 'Myrtaceace'. The major guava growing districts in Gujarat are Bhavnagar, Ahmadabad, Kheda, Mehsana, Sabarkantha, Gandhinagar, Vadodara, Godhra and Dahod. Guava is considered as an apple of the tropics owing to its richness in vitamin C (75-260 mg 100 g⁻¹ pulp) a good source of thiamine (0.03-0.07 mg 100 g⁻¹ pulp) and riboflavin (0.02-0.04 mg 100 g⁻¹ pulp) (Singh *et al.*, 2003). Besides this, guava fruit is also a good source of minerals like phosphorus (22.5-40.0 mg 100 g⁻¹), calcium (10.0-30.0 mg 100 g⁻¹) and iron (0.60-1.39 mg 100 g⁻¹) (Singh *et al.*, 2003). It is good source of pectin (0.5-1.8%) (Adsule and Kadam, 1995).

The fruits are used for preparation of jelly and other kinds of preserved products. The use of organic manure along with bio-fertilizers and inorganic fertilizers, a cheap source of available nutrient to plants, has resulted in beneficial effects on growth, yield and quality of various fruit crops under normal spacing (Ram and Rajput, 2000). Biofertilizers are microbial preparations containing living cells of different microorganisms which have the ability to mobilize plant nutrients in soil from unusable to usable form through biological process. They are environmental friendly and play significant role in crop production. It is mainly used for field crops but now-a-days it is used for fruit crops also. The research based information on effect of bio-fertilizers in combination with chemical fertilizers in guava is scanty.

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