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Growth, flowering, fruiting and yield of guava (*Psidium guajava* L.) cv. 'SARDAR' grown under high-density-planting system as influenced by various organic and inorganic sources

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ABSTRACT

An experiment on winter season crop of guava (*Psidium guajava* L.) cv. SARDAR grown under High-density-planting system was conducted during 2005-06 and 2006-07 at Department of Horticulture, RCA, M.P.U.A.T., Udaipur (Rajasthan) to study the response of various organic manures, inorganic fertilizers and *Azotobector* at different rates namely, FYM (75 kg/plant), *neemcake* (5 kg/plant), vermicompost (10 kg/plant), 50 per cent recommended dose of NPK (500:200:500 g/plant), 25 per cent recommended dose of NPK (250:100:250 g/plant) and *Azotobector* @ 20 g per plant on growth, flowering, fruiting and yield. The results indicated that 60 days after treatment the mean maximum increase in shoot length (41.76%) was observed in vermicompost @ 10 kg + 50 per cent recommended dose of NPK + *Azotobector* @ 20 g per plant treatment followed by 100 per cent recommended dose of NPK treatment (41.72%) and maximum increase in shoot diameter (35.63%) was recorded in vermicompost @ 10 kg + 50 per cent recommended dose of NPK + *Azotobector* @ 20 g per plant followed by *neemcake* @ 5 kg + 50 per cent recommended dose of NPK + *Azotobector* @ 20 g per plant treatment (35.29%). However, mean minimum days taken to initiation of flowering (25.85), maximum number of flowers per shoot (8.30/shoot), maximum fruit set (60.06%), highest fruit retention (59.83%) and maximum yield (44.25 kg/plant or 49.16 tones/ha) were recorded in vermicompost @ 10 kg + 50 per cent recommended dose of NPK + *Azotobector* @ 20 g per plant treatment as compared to control.

Key words : Guava, Organic manures, Inorganic fertilizers, *Azotobector*.

The increasing importance of guava (*Psidium guajava* L.) as a commercial tropical fruit crop, both for table purposes and processing demands its wide spread cultivation ensuring regular cropping and higher production grown under High-density-planting system. It belongs to family Myrtaceae and is a very common fruit, popular among rich and poors alike due to its moderate price, nourishing value and good taste. It is known as 'Apple of tropics' and rich in vitamin 'C' and pectin content besides being a good source of other vitamins and minerals. The use of organic manures, inorganic fertilizers and *Azotobector* has assumed an integral part of modern fruit production to improve quality and production of fruits. Thus the present study was aimed to asses the integrated approach of nutrition in guava cv. 'SARDAR' at Horticulture Research Farm, Rajasthan College of Agriculture, MPUAT, Udaipur.

MATERIALS AND METHODS

Twelve years old plants of guava cv. 'SARDAR' planted 3 x 3 m apart grown under High-density-planting system at instructional farm, Department of Horticulture, Rajasthan College of Agriculture, MPUAT, Udaipur (Rajasthan). During the year 2005-06 and 2006-07 were selected for the study. Single plant considered as an experimental unit was replicated four times in Completely Randomized Design with fourteen treatments. The treatments consisted of T_0 = Absolute control, T_1 = recommended dose of NPK (500 : 200 : 500 g/plant), T_2 = FYM @ 75 kg + 50 per cent recommended dose of NPK per plant, T_3= FYM 75 kg + 50% recommended dose of NPK + *Azotobector* @ 20 g per plant, T_4 = FYM @ 75 kg + 25 per cent recommended dose of NPK per plant, T_5 = FYM @ 75 kg + 25 per cent recommended dose of NPK + *Azotobector* @ 20 g per plant, T_6 = *Neemacake* @ 5 kg + 50 per cent recommended dose of NPK per plant, T_7 = *Neemcake* @ 5 kg + 50 per cent recommended dose of NPK + *Azotobector* @ 20 g per plant, T_8 = *Neemcake* @ 5 kg + 25 per cent recommended dose of NPK per plant, T_9 = *Neemcake* @ 5 kg + 25 per cent recommended dose of NPK + *Azotobector* @ 20 g per plant, T_{10} = Vermicompost @ 10 kg + 50 per cent recommended dose of NPK per plant, T_{11} = Vermicompost @ 10 kg + 50 per cent recommended dose of NPK + *Azotobector* @ 20 g per plant, T_{12} = Vermicompost @ 10 kg + 25 per cent recommended dose