

Research Note

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Effect of integrated nutrient management on yield and quality of Guava

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Abstract : An experiment was conducted to study the effect of different combinations of organic, inorganic manures and biofertilizers on yield and quality of guava at Department of Horticulture, Panjabrao Deshmukh Krishi Vidyapeeth, Akola during year 2010-11. The fruit yield in terms of number of fruits harvested per plant, fruit yield (kg/plant) was recorded maximum in plants which were treated with (487.5+243.75+281.25 g NPK + 50 kg FYM + 250 g *Azotobacter* + 250 g PSB/plant). Same treatment also showed the superior fruit quality traits evaluated in terms of fruit weight, fruit size, fruit volume.

Key words : Guava, INM

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Basically guava is a hardy crop even though it gives good response to manuring and fertilization. Like any other plants guava also requires different nutrient elements for proper growth and yield. Use of organic manures along with biofertilizers and inorganic fertilizers as a cheap source of available nutrient to plants has resulted in beneficial effects on growth, yield and quality of various fruit crops (Ram and Rajput, 2000). Hence, keeping all these point in view, the attempts were made to find out suitable combination of organic, inorganic manures and biofertilizers for obtaining higher yield and better fruit quality in guava.

An experiment was laid out in 2010-11 in Randomized Block Design with eleven treatments and three replications at Shivar Block, Central Research Station. The treatments were T₁ (650:325:375 g NPK + 50 kg FYM / plant), T₂ (487.5:243.75:281.25 g NPK + 50 kg FYM + 250 g *Azotobacter* / plant), T₃ (487.5 : 243.75:281.25 g NPK + 50 kg FYM + 250 g *Azospirillum* / plant), T₄ (487.5:243.75:281.25 g NPK + 50 kg FYM + 250 g *Azotobacter* + 250g PSB / plant), T₅ (487.5 : 243.75:281.25 g NPK + 50 kg FYM + 250 g *Azospirillum* + 250g PSB / plant), T₆ (650:325:375 g NPK + 15 kg vermicompost / plant), T₇ (487.5:243.75:281.25 g NPK +

15 kg vermicompost + 250 g *Azotobacter* / plant), T₈ (487.5:243.75:281.25 g NPK + 15 kg vermicompost + 250 g *Azospirillum* / plant) and T₉ (487.5:243.75:281.25 g NPK + 15 kg vermicompost + 250 g *Azotobacter* + 250g PSB / plant), T₁₀ (487.5:243.75:281.25 g NPK + 15 kg vermicompost + 250 g *Azospirillum* + 250g PSB / plant) and T₁₁ (Control).

Half dose of nitrogen and full dose of potassium, phosphorous were applied on first week of July, 2010 and remaining half dose of nitrogen was applied one month after first dose *i.e.* second week of August, 2010. Fertilizer applied between the radial distances 200 to 260 cm away from trunk, 15-25 cm deep and then properly covered with soil. Biofertilizers were applied by mixing in FYM and Vermicompost one week after application of inorganic fertilizers.

For recording the fruit quality observations five mature fruits were randomly selected from each observational plant and same fruits were used for recording the various physico-chemical properties of guava.

The data regarding fruit yield presented in Table 1 clearly indicate that, number of fruits per plant and fruit yield per plant was significantly influenced by various treatments of organic, inorganic manures and