



Research Paper

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Effect of different doses of nitrogen and phosphorus on yield and quality attributes of guava (*Psidium guajava* L.) var. GWALIOR-27

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ABSTRACT : Study was conducted for two years to evaluate the effect of different doses of nitrogen and phosphorus on yield and quality of Guava var. Gwalior-27. The study revealed that 1.20 kg nitrogen with 1.00 kg phosphorus per plant is the best dose for getting maximum yield with quality fruits of guava in northern Madhya Pradesh orchards.

KEY WORDS : Bahar, Guava fruits, Citric acid, Yield

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Guava (*Psidium guajava* L.) is one of the important fruit crop of subtropical and tropical region of India and is extensively grown in western India. It is much tolerant to drought and semi arid conditions as well as salinity problems as compared to other important fruit crops. Guava is a rich source of vitamin C and also it contains a fair amount of calcium and phosphorus.

High production from guava trees depends upon many factors. One of the principle factor is an adequate supply of plant nutrients. Out of various nutrients nitrogen and phosphorus play an important role in fruit production. The present research work of Guava var. Gwalior-27 was taken up during 'Bahar' season.

RESEARCH METHODS

The experiments were conducted at orchard of Pomology Section, College of Agriculture, Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior during the two consecutive years 2009-2010 and 2010-2011. The soil of the guava orchard was sandy loam having 0.57 per cent organic carbon, available nitrogen, phosphorus and potash content of 272.00, 48.00

and 312.00 kg/ha, respectively and 7.7 pH. The experiment was laid out in a Randomized Block Design (RBD) with three replications and 16 treatments (Table 1). Fifteen year old forty eight uniform plants of guava variety Gwalior-27 were selected for the study. The nitrogen levels were 0 g (N₀), 400 g (N₁), 800 g (N₂) and 1200 g (N₃) through urea and phosphorus levels were 0 g (P₀), 500 g (P₁), 750 g (P₂) and 1000 g (P₃) was applied in the form single super phosphate by placement method per plant.

RESEARCH FINDINGS AND DISCUSSION

Number of fruits and weight of fruit per plant and yield (kg) per plant is given in Table 1, 2, 3 and 4 as affected by different treatments.

It is evident from Table 1 that the effect of nitrogen and phosphorus and the interaction (N x P) on the number of fruits was significant in both the years. The number of fruits per plant exhibited an increasing trend with the increasing level of nitrogen up to 400 g P₂O₅ per plant under varied doses of phosphorus including P₀ in both the years.

At 750 g P₂O₅/plant, each increment in N level