



## Research Paper

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# Effect of nitrogen and phosphorus on vegetative growth and flower yield of Jasmine

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**Abstract :** A field experiment was conducted on effect of nitrogen and phosphorus on vegetative growth and flower yield of Jasmine (*Jasminum sambac* Ait.) cv. 'DOUBLE' under middle Gujarat conditions during 2009-2010 at College Nursery, Department of Horticulture, B. A. College of Agriculture, AAU, Anand. The experiment was laid out in Factorial Randomized Block Design (FRBD) with nine treatments. All treatments were replicated three times and each treatment was having 10 plants. For growth, yield and flowering parameters, the treatment nitrogen 150 g/plant recorded significantly maximum plant height (134.28 cm), number of branches/plant (71.33), plant spread N-S (97.67 cm) and E-W (112.06 cm), flower diameter (3.09 cm), weight of flower (2.50 g), number of flowers/plant (334.69), yield of flowers/plant (799.63 g), yield of flowers per hectare (5.33 t), shelf life of flower (50.79 hours), minimum days taken for flower initiation (112.06 days) and days for peak flowering (138.44 days). And also growth, yield and flowering parameters were found superior in the treatment phosphorus 75 g/plant e.g. plant height (128.43 cm), number of branches/plant (64.64), plant spread N-S (92.36 cm) and E-W (102.62 cm), flower diameter (2.82 cm), weight of flower (2.33 g), number of flowers/plant (328.54), yield of flowers/plant (738.31 g), yield of flowers per hectare (4.92 t), shelf life of flower (47.16 hours), minimum days taken for flower initiation (113.00 days) and days for peak flowering (143.11 days).

**Key words :** Jasmine, Nitrogen, Phosphorus, Vegetative growth, Flowering and yield

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Jasmine is one of the important commercial flower crop cultivated throughout India. It belongs to the family Oleraceae. Jasmine flowers, known for their fragrance used for making garlands, veni for adorning hair and also used for production of perfumes. Jasmine is a genus of more than 200 species and about 40 species are considered to be true in existence. Among them only three species of jasmine are commercially cultivated, these are *Jasminum sambac* Ait *Jasminum grandiflorum* and *Jasminum auriculatum* is a species of jasmine native to India. The cultivar double is a slow growing shrub. It has gardenia type white double flower with good fragrance.

The successful commercial cultivation of any crop depends on many factors like, climate, soil fertility, fertilization, season of growing etc. Among these fertilization, especially

nitrogen and phosphorus have major effect on plant growth, flowering and yield. From the literature very little research work has been done to study the effect of N and P on Jasmine in India as well as in Gujarat. Therefore, an attempt has been made to study the effect of N and P on vegetative growth and flower yield of Jasmine (*Jasminum sambac* Ait.) cv. DOUBLE under middle Gujarat conditions.

## RESEARCH METHODS

An experiment was carried out at the College Nursery, Department of Horticulture, BACA, AAU, Anand, during *Rabi* to *Kharif* season of the year 2009-10. The plants of Jasmine (*Jasminum sambac* Ait.) cv. 'DOUBLE' were used for the present study, for this purpose well established three years old healthy and uniform sized plants were selected and nitrogen and