



## Effect of P-solubilizers, IBA and enriched compost on rooting and growth of pomegranate (*Punica granatum* L.) cuttings cv. GANESH

S. WALI\*, S. SHANKAR, V.C. SUVARNA AND J. RAJ

Department of Agricultural Microbiology, University of Agricultural Sciences, G.K.V.K., BENGALURU  
(KARNATAKA) INDIA

**Abstract :** The investigation on effect of P-solubilizers and enriched compost on rooting and growth of pomegranate (*Punica granatum* L.) cuttings was studied under green house condition during 2004-05. Among the different treatments cuttings treated with *Pseudomonas fluorescens* @ 5 g per kg of pot mixture integrated with enriched compost recorded significantly higher rooting percentage (81.25%), maximum length of longest primary root (28.07 cm), higher fresh weight (1.03 g) and dry weight (0.50 g) of roots per cutting compared to rest of the treatments. Thus from the results it can be concluded that P-solubilizers along with enriched compost had greatly influenced on root parameter of pomegranate cuttings.

**Key Words :** Cuttings, P-solubilizers, IBA, Compost, Pomegranate

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### INTRODUCTION

Increased costs of synthetic growth regulators and environmental pollution due to their application warrant an alternative. Microbial inoculants are now widely applied in eco-friendly technology. Applications of microbial inoculants in plants have been considered more of curiosity. The unique root initiating activity of these microbial inoculants may result in early and better rooting of cuttings and layers.

The application of microbial inoculants can stimulate plant growth by fixing atmospheric nitrogen, solubilizing fixed phosphorus and other nutrients and decomposing organic wastes and residues. The P-solubilizers besides solubilizing insoluble phosphates, they are also known to produce plant growth promoting substances and benefit the plant in several ways. The enriched compost provides food for the microorganisms and macro and micronutrients required for the root growth and development of pomegranate cuttings. Hence, an attempt was made to study the effect of P-

solubilizers and enriched compost on rooting and growth of pomegranate (*Punica granatum* L.) cuttings.

### MATERIALS AND METHODS

The present investigation was under taken at the Department of Agricultural Microbiology, University of Agricultural Sciences, GKVK, Bangalore, under greenhouse condition during 2004-05. Different types of P-solubilizers viz., *Bacillus megaterium*, *Bacillus subtilis* and *Pseudomonas fluorescens* were multiplied on King's Broth for 10 days. The fully grown culture when attained a population of  $10^8$  cells per ml then it was mixed with presterilized neutralised lignite powder and applied to polybags at the rate of 5 g per kg pot culture. The dried sieved enriched compost was collected from Organic Matter Decomposition Scheme, Department of Agricultural Microbiology, UAS, GKVK, Bangalore.

Soil, sand and enriched compost were taken at the ratio of 2:1:1 and they were mixed thoroughly. For control treatment,

\* Author for correspondence.