

Influence of P-solubilizers, enriched compost and IBA on shoot parameters and N, P content in leaves of pomegranate (*Punica granatum* L.) cuttings

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SUMMARY

An experiment was conducted under green house condition at the Department of Agricultural Microbiology, UAS, GKVK, Bangalore during 2004-2005 to study the effect of P-solubilizers and enriched compost on rooting and growth of pomegranate (*Punica granatum* L.) cuttings. The cuttings inoculated with *Pseudomonas fluorescens* @ 5 g per kg of pot mixture integrated with enriched compost were recorded significantly early sprouting (5.5 day after planting (DAP), maximum sprout length (18.37 cm, 36.23 cm and 71.71 cm at 30, 60 and 90 DAP, respectively) and also higher percentage of phosphorus (0.31%) and nitrogen (0.74%) were found in the leaves of sprouted cuttings as compared to rest of the treatments. From the results it can be concluded that P-solubilizers along with enriched compost have influenced on growth and other parameters as against synthetic growth regulators.

Key Words : P-solubilizers, Enriched compost, IBA, Cuttings, Rooting, Growth

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India signing to WTO agreement has changed the scenario of Indian agriculture in general and horticulture in particular, with increased impetus to face global competitiveness in productivity and quality. Genuine planting or seed material is of immense importance, particularly for fruit crops, to realize maximum returns. India is the largest pomegranate fruit producer in the world, with about 50 per cent of the world's production and 5 per cent of the total international pomegranate Trade (Raina, 2004).

Some of the microorganisms are known to produce several growth regulating substances having beneficial effects on plant growth and development processes, including

cell division, cell elongation and root proliferation. Applications of P-solubilizing microorganisms influences nutrient uptake and growth of plants by producing bio-active compounds and solubilizing phosphorus from insoluble sources, also fix atmospheric nitrogen.

The application of enriched compost enhances the soil health and also supports the plant growth by providing nutrients. Hence, study was carried out to know 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 2004-2005.

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

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