

## SHOOT PROLIFERATION AND PLANT REGENERATION FROM COTYLEDONARY NODES OF (*Punica granatum* L.) cv. 'Youssef Khany'

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### Abstract

A complete protocol is presented for in vitro regeneration of pomegranate (*Punica granatum* L.) cv. 'Youssef Khany' a tropical fruit tree, using cotyledonary nodes derived from axenic seedlings. Shoot development was induced from cotyledonary nodes on Murashige and Skoog (1962) (MS) medium supplemented with 2.3-23.0 $\mu$ M benzyladenine (BAP) or kinetin (Kin). Both type and concentration of cytokinin significantly influenced shoot proliferation. The maximum number of shoots (9.8 shoots/explant) was developed on a medium containing 9.0  $\mu$ M BA. Shoot culture was established by repeatedly sub culturing the original cotyledonary node on a fresh batch of the same medium after each harvest of the newly formed shoots. In vitro raised shoots were cut into nodal segments and cultured on a fresh medium for further multiplication. Thus, from a single cotyledonary node about 30-35 shoots were obtained in 60 days. Shoots formed in vitro were rooted on half-strength MS supplemented with 0.054-5.4  $\mu$ M naphthaleneacetic acid (NAA). However, a medium containing 0.54  $\mu$ M NAA resulted in the highest per cent rooting of shoots and significantly higher number of roots than other concentrations. Plantlets were successfully acclimated and established in soil.

Key words: Cotyledonary node, regeneration, *Punica greanatum*.



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