Tissue culture of three cultivars of Pomegranate in Iran

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Pomegranate is a shrub of subtropical and mediteranian climate. Some researchers believe that its origin is Iran, in Caspian seachore.

Cultivation of this resistant shrub in most points of Iran is possible. Multiplication of pomegranate is by cutting. Four main problems of this tree are: unsimilar orchards, pharyngalwor, fissure of fruit peel and frostbite. Unfortunately, there is no effective research for improving of Iranian pomegranate. Tissue culture methods and genetic engineering can solve the above problems in future.

We studied callus formation and organogenesis on 3 cultivars pomegranate: "Shirin", "Malas", and wild cultivar of Mazandaran forest. The explants of young stem, leaf and apical shoot meristem were cultured in modified MS medium. Different amounts of BAP and NAA hormones were compared in 13 different treatments with control without hormone. The best result in callus formation was on treatment with 2 mg NAA and 1mg BAP by meristem culture and "Malas" cultivar had more power of callus formation in compared with 2 other cultivars. The best bud growth was in treatment by 2 mg NAA and 0.5 mg BAP with apical meristem cultivar. Using 3 mg NAA and 0.5 mg BAP gave us the best result in root formation.