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Micropropagation and acclimatization of *Vitis vinifera* (Grape)

Vitis vivifera (grape) is a slow growing vine, and commonly propagated by cuttings, although it demands a considerable amount of time and labour. Tissue culture techniques (mainly meristem culture) are being employed for increased plant production.

In this study, the successful development of plantlets from the shoot meristems of *V. vivifera* was achieved. The effect of the position of the node on the stem, composition of culture media and culture conditions were tested for shoot proliferation. Apical and auxiliary buds excised from 2-4 th nodes from the apex gave the highest % establishment after surface disinfection. Those collected from very old stem portions failed to be established *in vitro*. Shoot initiation was tested on Murashige & Skoog (1962) medium supplemented with different concentrations of Benzyl Amino Purine (BAP), Indole Acetic Acid (IAA) & Gibberellic Acid (GA3) and their combinations. Multiple shoot initiation occurred from axillary bud explants on semi solid MS medium containing 1.0 mg/ L BAP and 0.1 mg/L, IAA. A maximum number of 12 clusters of shoots per vessel was obtained on this medium. Root initiation was observed about 10 days after transfer to MS medium supplemented with 1.0 mg/ L IBA. After 4 weeks rooted shoots were inoculated on basal MS medium for root elongation. Plantlets of an average height of 4 cm, were acclimatized for 3 weeks in a substrate of sterilized stone chips supplemented with a nutrient medium consisting of soil and sand in the ratio of 2: 1, at 80 % relative humidity and 50% light.