

B-29: Micropropagation of *Vitis vinifera* (grape vine) through shoot tip culture

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Grape vine belongs to the genus *Vitis* family Vitaceae, which includes about 60 known species. They are tendrilled woody climbers with alternate, palmately nerved and frequently lobed leaves. Grapes are one of the main horticultural crops in the world, grown under semi-arid and subtropical conditions, for the fresh or dried fruits or for wine-making. In Sri Lanka, they are grown in warm areas like Dambulla, Kekirawa, Embilipitiya and Hambantota.

Grapes are commonly propagated by cuttings, although it demands a considerable amount of time and labour. Grapes, perhaps more than any other fruit crop, do best only under intensive cultural practices, including pruning and training. The principal purposes of pruning are to establish a framework, control growth and regulate bearing. Seed cultivation is rarely practiced due to low viability.

Tissue culture technique (the meristem culture technology) is increasingly being employed for increased plant production. In this study, the successful development of plantlets from shoot tips of *V. vinifera* is demonstrated.

The effects of IAA (0.01 mg/l and 0.1 mg/l) in combination with BAP (0.1 mg/l and 1.0 mg/l), and BAP & GA₃ alone on MS medium on shoot proliferation were tested. Cultures were incubated at 25 - 27°C with 18/6h photoperiod, often being substituted with 24h photoperiod. Induction of shoot proliferation occurred about 6 days after inoculation. Best performance was on MS medium supplemented with 1.0 mg/l BAP and 0.1 mg/l IAA.

After 8 levels of sub culturing at 2 week intervals, shoots were transferred to MS medium supplemented with 1 mg/l IBA for root initiation. They were then put in MS basal medium for root elongation. Rooted shoots can be acclimatized after 4 weeks.

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