



P 15 *In-vitro* multiple shoots induction of Grapes (*Vitis venifera*): Vdr.Sonaka

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Limited availability of healthy planting materials of grape varieties is the major constrain to expand the grape cultivation in Sri Lanka. Application of *in vitro* propagation of grapes, by adding BAP (Benzyl Amino Purine) as a growth hormone induced proliferation to propagate grapes in large quantities is the best option. However, when adding high BAP concentrations it produces callus other than shoots and in lower concentrations it exhibits low proliferation rate. Therefore this study was conducted to find the best BAP concentration for multiple shoot induction of grapes, var.Sonaka. Young intermodal segments (new sprouts) and shoot tips (1 -2 cm length) were taken from mature veins were used as explants and surface sterilized with 5% Clorox for 10 min to minimize pathogenic contaminants. Murashige and Skoog (MS) medium was used as the culture media, supplemented with BAP hormone levels vary from (0.3, mg/L to 1mg/L) and BAP hormone with constant level of 0.01mg/L Naphthalene Acetic Acid (NAA). Proliferation rate and percentage of callus induction were recorded in 2 weeks intervals. Results indicated that 0.5 BAP added culture media produced the highest average number of shoots per cultured ex plant. (6 elongated shoots/ex plant, P= 0.024) Hormone concentrations which were higher than 0.5mg/L (0.6, 0.7, 0.8,1.0 mg/L) were produced both shoots and callus. When it produced callus, shoots were not healthy for subsequent sub culturing. Hormone concentrations which were below 0.5mg/L were produced less number of shoots (2 shoots/ex plant) and those shoots were long and weak in appearance. Therefore lower concentrations are good for shoot elongation and not for shoot proliferation. The medium supplemented with BAP and NAA hormone did not show any significant different. We can conclude that, 0.5mg/l BAP level in the MS medium produce highest number of shoots with no callus production.

Keywords: *Vitis vinifera*, Benzyl amino purine, *in vitro* culturing