

Micro propagation of Jujube (*Ziziphus jujuba* Mill.) through shoot tip and nodal segment culture

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Jujube is known as *Masan* in Sri Lanka is one of the underutilized fruit crops. It is important due to its high nutritious value and introduced as a potential crop for commercial cultivation. Micro propagation using plant tissue culture is an efficient method for vegetative propagation of commercially important crops. Present study was carried out to determine a proper *in-vitro* protocol for local varieties of Jujube. The most suitable fungicide for surface sterilization procedure was selected by testing Captan (Captan 50%, 1.2 g/l), Topsin (Thiophanate methyl 70%, 2 g/l), and Daconil (Chlorothalonil, 1.8 ml/l). Selection of a suitable concentration of BAP or TDZ for shoot proliferation was assessed in four different concentrations of BAP (1, 1.5, 2, 2.5 mg/l) and of TDZ (0.1, 0.2, 0.3, 0.4 mg/l) and IBA for root induction in two concentrations of IBA (1, 2 mg/l). Dipping shoot tips in Captan solution for 20 minutes gave the highest significant non-contamination percentage (79.9%) and lowest fungal radius (0.15 cm) of contaminated cultures among three treatments. MS medium containing 1.5 mg/l BAP recorded significantly highest percentage of elongated bud (96.66%) and newly produced shoot length (1.08 cm) and lowest significant rate was recorded in TDZ 0.2 mg/l (3.33%). Callus was produced in all the concentrations of TDZ. None of the concentrations of BAP or TDZ produced multiple shoots. Elongated nodal segments in BAP (1, 1.5 mg/l) could be successfully sub-cultured for further multiplication. Rooting was not recorded in both shoot tips and *in-vitro* generated shoots during four weeks of culturing on IBA contained media.

Keywords: *Ziziphus jujuba* Mill, *in-vitro* propagation, shoot tips, direct shoot induction

Abbreviations: BAP (*Benzyle Amino Purine*) TDZ (*Thidiazuron*) IBA (*Indole Butric Acid*) MS (*Murrashige and Skoog*)

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