

FEASIBILITY OF IN-VITRO PROPAGATION
OF NADUN (Pericopsis Mooniana)

By

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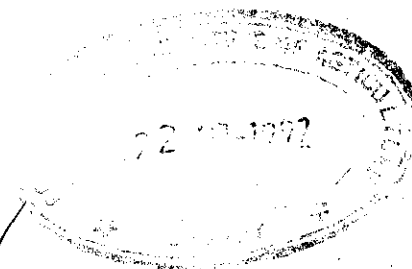
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ABSTRACT

Shoot tip, cotyledon and hypocotyl explants were excised from actively growing 10-15 day old nadun (Pericopsis mooniana) seedlings grown in vitro, and cultured on modified Murashige and Skoog (MS) medium. Callus cultures were established from hypocotyl and cotyledon explants in the MS medium supplemented with either 2.0 mg l^{-1} BAP and 5.0 mg l^{-1} 2,4-D or 2.0 mg l^{-1} BAP and 5.0 mg l^{-1} NAA. Organogenesis of shoot buds occurred only in cotyledonary callus which originated from medium supplemented with BAP (2.0 mg l^{-1}) and NAA (5.0 mg l^{-1}). However, other callus types failed to produce shoot buds. The highest response in shoot bud organogenesis was observed in the medium supplemented with 5.0 mg l^{-1} BAP and 100 mg l^{-1} Casein hydrolysate (CH) in which 60% of the cultures produced shoots.

Shoot tip cultures were established in the medium supplemented with different combinations of cytokinin (BAP or KN) and NAA. The highest response in culture establishment occurred in the medium supplemented with 2.0 mg l^{-1} BAP. BAP was a more effective promoter of multiple shoot proliferation than KN or 2iP. Maximum production of shoots occurred in a medium containing 5.0 mg l^{-1} BAP. However, maximum production of shoots 5 mm and longer occurred in a medium supplemented

with 2.0 mg l^{-1} BAP with or without 0.1 mg l^{-1} NAA or 0.5 mg l^{-1} NAA. The addition of adenine sulphate (AS) to the multiplication medium did not promote shoot multiplication, rather it was inhibited by AS. The highest response in shoot elongation occurred in the medium containing half strength of macro elements ($1/2$ MS) with 3% sucrose. Shoots were successfully rooted in the basal medium supplemented with 5.0 mg l^{-1} IBA and 5.0 mg l^{-1} NAA, in which over 70 % of shoots produced roots at 60 days in culture. However, the highest response in root elongation occurred at 14 days in culture of shoots.