

Micropropagation of the giant bamboo (*Dendrocalamus giganteus* Munro) from nodal explants of field grown culms

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Received 10 March 1997; received in revised form 21 July 1997; accepted 5 August 1997

Abstract

Propagules of *Dendrocalamus giganteus* were produced by a process of in vitro axillary shoot proliferation followed by rooting. Axillary bud break and the presence of culture contaminants in single-node segments of secondary branches were strongly influenced by the seasonal rainfall pattern. Cultures of axillary shoots were initiated during peak bud-break periods in a semi-solid MS medium with 2 mg l^{-1} benzylaminopurine (BAP), 0.1 mg l^{-1} kinetin and 1 g l^{-1} Benlate (benomyl). Continuous shoot proliferation for a period of 1 year was achieved in a liquid MS medium with 6 mg l^{-1} BAP, 0.1 mg l^{-1} kinetin and 8% (v/v) coconut water. Shoot proliferation at a 1.8-fold increase in shoot number every 13 days took place after a lag phase of 65 days. Shoots (77.5%) rooted when transferred from the shoot proliferation medium containing 3 mg l^{-1} indole butyric acid in the last two passages, to a rooting medium with MS modified to half strength major salts, 3 mg l^{-1} IBA and 10 mg l^{-1} coumarin. After a period of in vitro hardening the propagules were transferred to soil. © 1997 Elsevier Science Ireland Ltd.

Keywords: Bamboo; *Dendrocalamus giganteus*; Micropropagation; In vitro bud-break; Root induction; Seasonal effects
