

B-31: Induction and growth of cell suspensions from tissues derived from an adult clump of *Dendrocalamus giganteus* (giant bamboo)

S M S D Ramanayake, W A V R Wanniarachchi
(*Institute of Fundamental Studies, Kandy*)

Bamboos are a highly sought after natural resource for both rural and industrial applications. They show unusual behaviour among members of its family the Poaceae or the grasses. The development of a system of regeneration from callus would be of use in studying their behaviour and for the production of propagules. Investigations were made on the induction and proliferation of callus and cell suspensions using explants derived from an adult clump of *D. giganteus* in order to develop such a system. *In vitro* induced shoot and root explants were cultured in a basal MS medium with different levels and combinations of 2,4-Dichlorophenoxyacetic acid (2,4-D), Alpha naphthaleneacetic acid, Kinetin and benzylaminopurine (BAP). All the roots and 71% of the shoot explants developed and proliferated callus in the presence of 2,4-D at 7.5 mg l^{-1} . Hard nodular callus, friable soft callus and mucilaginous callus differentiated. All these types of calli gave rise to cell suspensions on transfer to a liquid medium of the same composition. Sieved fractions of the cell suspensions continued to proliferate rapidly on subculture. On transfer of callus to medium with BAP they turned brown but cream coloured callus developed with time. Organogenesis leading to root formation was observed in hard nodular callus that differentiated from root explants. Hard nodular callus and mucilaginous callus have been reported to be embryogenic in species of bamboo.