IN- VITRO PROPAGATION OF *Bambusa multiplex* (HEDGE BAMBOO)

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The study was conducted to develop effective *in-vitro* protocol for mass propagation of *Bambusa multiplex* at Tissue Culture Laboratory, Department of National Botanic Gardens, *Peradeniya*.

Single nodal segments of 1.5 - 2.0 cm in length were surface sterilized with 70% ethanol for 1 minute, followed by two concentrations (20, 30%) of sodium hypochlorite (NaOCl) for 20 minute and soaked in 0.1% mercuric chloride ($HgCl_2$), for two time durations (5,10 minutes). Percentage of microbial contamination was recorded in ½ MS medium at the end of the fourth week. A lowest percentage of microbial contamination (13.3%) was observed subsequently when explants were treated with 70% ethanol for 1 minute and sterilized with 30% NaOCl with a drop of Tween 20 for 20 minute and soaked in 0.1% $HgCl_2$ for 5 minute.

Explants were then cultured in half strength MS basal medium treated with four concentrations (0, 1, 2, 3 mg/l) of BAP and three concentrations (0, 0.1, 0.5 mg/l) of kinetin for shoot multiplication. Shoot length and number of shoots per explant were recorded in 7 and 10 days interval respectively, for a period of 6 weeks. Highest shoot multiplication (2.2 ± 0.7) was observed in ½ MS + 2 mg/l BAP and was significantly different ($p<0.05$), though there was no treatment effect on shoot length.

Root induction was studied in half strength MS medium treated with four concentrations (0, 0.5, 1 and 1.5 mg/l) of NAA. Highest root induction percentage (33.3 %) was observed in 1 mg/l NAA at end of the fourth week. Highest number of roots (2.5 ± 0.7) was observed in 1 mg/l NAA and highest root length (1.2 ± 0.3) was observed in 0.5 mg/l NAA concentration.

Key words: *Bambusa multiplex, In-vitro* propagation, Nodal explant, Ornamental bamboo