

**B-47 : ZYGOTIC EMBRYO CULTURE FOR THE MASS PRODUCTION  
OF PLANTING STOCK OF A RATTAN, *Calamus thwaitesii***

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The rattan resources of Sri Lanka show signs of becoming depleted. Repopulation of their habitats is urgently required. Therefore tissue culture methods were investigated to overcome the recalcitrant germination in *Calamus thwaitesii*, a large diameter species of rattan.

Embryos of mature and immature fruits were cultured in 12 treatments in three basal media, WPM (Lloyd and McCown, 1981) MS (Murashige and Skoog, 1962) and HOH (the high concentration range of mineral components, sucrose, growth factors plus amino acids of a broad spectrum experiment by De Fossard, (1976), without hormones or with bezylaminopurine (BAP) and naphthaleneacetic acid (NAA), each at 5 mg<sup>l</sup><sup>-1</sup> to induce germination. Immature embryos gave a germination of 77.8%, considered to be high, in HOH and MS without hormones. This method can be recommended to overcome the recalcitrant, slow, natural germination of the seeds.

For callus induction from immature embryos. WPM supplemented with NAA and 2-4 dichlorophenoxyacetic acid (2-4D) each at 0, 5, 50 and 100 mg<sup>l</sup><sup>-1</sup> in a factorial combinations was used. NAA at 5 mg<sup>l</sup><sup>-1</sup> together with 2-4D at 5 or 50 mg<sup>l</sup><sup>-1</sup> induced callus which survived a longer period. In attempts to regenerate plantlets by transfer to hormone free medium followed by supplementing with BAP, only anomalous organogenetic redifferentiation in callus was obtained. Therefore modifications of hormones and nutrients will have to be investigated to induce consistent normal plant regeneration from callus.