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TISSUE CULTURE PROPAGATION OF RUBBER (*HEVEA BRASILIENSIS* (WILLD. EX ADR. DE JUSS.) MUELL. ARG.) CLONE GT (GONDANG TAPEN) 1.

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An *in vitro* propagation system for clone GT 1 is reported. The optimal growth regulator range for shoot and root development was 1.5 - 3.0 mg l^{-1} indoleacetic acid (IAA) with 0.5 - 1.5 mg l^{-1} kinetin. Rooted plantlets were successfully transplanted in the field.

Key words – *Hevea brasiliensis*, Tissue culture, *In vitro* propagation.

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INTRODUCTION

Hevea brasiliensis (Willd. ex Adr. de Juss.) Muell. Arg., the commercial source of natural rubber can be propagated generatively and vegetatively. Traditionally clonal materials are multiplied by budgrafting. Natural rubber producing countries have been experiencing the need, for quite some time, for a tissue culture propagation system for rubber clones. It is reasonably assumed that tissue culture derived rubber clones would have the possibility of bigger trunk-girth causing earlier tapping and that they would be devoid of the disadvantages, usually associated with the traditional propagation system, such as stock-scion interaction resulting in high coefficient of variation among trees. Paranjothy and Ghandimathi (1975 a and b) could grow shoot tips from 2 4 weeks old seedlings. They could induce rooting also among some of the seedling-derived cultures but failed to do so with clonal materials. Shoots have been regenerated from auxiliary bud explants of a few *Hevea* clones by Sinha *et al.* (1985) but failed to obtain rooting. However, shoot and root development were successfully obtained from seedlings by Carron *et al.* (1988).

MATERIALS AND METHODS

Shoot apices were excised from GT 1 clonal trees and were surface sterilized for 5 min in 70 per cent alcohol with 1.0 per cent Tween 20 followed by immersion in 1.0 per cent sodium hypochlorite for 8 min and thorough rinsing in sterile double distilled water. With the aid of a dissection microscope, 3–5 mm shoot apices were excised and placed in the culture tubes (15 x 2.5 cm) containing 10 ml of AH–1 medium (medium standardised in this laboratory) per tube. The concentration of Bacto Agar (BA) was 8.0 g l^{-1}. The pH was adjusted to 5.7 prior to autoclaving for 15 min at 1.01 kg cm^{-2} and 121°C. Kinetin and indole acetic acid (IAA) were added in the medium at the following concentrations : 0 – 5 mg l^{-1} IAA in combination with 0 – 5 mg l^{-1} kinetin, both in increments of 0.5 mg l^{-1}