

# RECOMBINATION BREEDING OF *HEVEA BRASILIENSIS* IN INDIA: CLONES EVOLVED FROM THE 1983 HYBRIDIZATION PROGRAMME

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Received: 20 December 2017

Accepted: 15 January 2018

John, A., Nazeer, M.A. and Mydin, K.K. (2018). Recombination breeding of *Hevea brasiliensis* in India: Clones evolved from the 1983 hybridization programme, *Rubber Science*, 31(1): 10-21.

Hundred and ten hybrid clones evolved from the 1983 hybridization programme and five ortets which were selections from GG1 polyclonal seedlings planted at the Central Experimental Station of Rubber Research Institute of India (RRII) were evaluated over five years of tapping in seven small scale trials laid out in the farms of Kerala Agricultural University, Vellanikkara campus, Thrissur. The performance of these clones with respect to rubber yield, timber yield, summer yield depression, girth at opening and girth increment rate at immaturity and under tapping in comparison to the high yielding check clone RRII 105 is presented. A total of 22 promising clones could be identified from this population. Of these, 11 clones exhibited high rubber yield of which nine were dual purpose latex-timber clones (83/24, 83/35, 83/29, 83/173, 2/372, 83/191, 83/17, 83/224 and 83/234). Four of the latex-timber clones were from the cross RRIM 600 x GI 1, two belonged to the cross GT 1 x RRII 105, two were ortets selected from GG1 polycross trees and one belong to the cross PB 5/51 x RRII 105. Based on the criterion of timber yield, 11 clones exhibited very good timber yield of  $> 0.2 \text{ m}^3 \text{ tree}^{-1}$  at the age of 20 years (83/31, 83/8, 83/12, 83/60, 83/111, 83/117, 83/120, 2/185, 83/19, 83/11 and 83/37) of which two clones had rubber yield on par with RRII 105, eligible to be designated as timber-latex clones (83/37 and 83/11). Among the 115 clones evaluated, the recovery of high rubber yielders was 10 per cent and high timber yielders was 11 per cent.

**Key words:** *Hevea brasiliensis*, Hybridization, Hybrid clones, Latex-timber clones, Ortets, Rubber yield

## INTRODUCTION

*Hevea brasiliensis* (Wild.ex.Adr.de Juss Muell.Arg.) the most important source of natural rubber is a perennial tree species, amenable to vegetative propagation which renders easy the fixation of heterosis. Among the characters influencing rubber yield, vegetative vigour in terms of tree girth is the most important. *Hevea* breeding efforts are directed mainly towards obtaining a favourable combination of yield and

desirable secondary attributes through hybridization followed by clonal selection. Sustained high yields over the years is the ultimate objective in breeding programmes.

Genetic improvement research in rubber was initiated in India with the introduction of exotic clones from Malaysia, Indonesia and Sri Lanka around the middle of 20th century. The first hybridization programme was undertaken at Rubber Research Institute of India in 1954 (Nair and Panikkar, 1966).