

## LONG-TERM PERFORMANCE OF TWENTY CLONES OF *HEVEA BRASILIENSIS* UNDER LARGE-SCALE TRIAL IN INDIA

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Long-term growth and yield performance of twenty *Hevea brasiliensis* clones were evaluated in two trials in the traditional rubber growing zone of India. Yield, growth and secondary characters like tapping panel dryness and diseases were monitored. In Trial I, mean yield (g/t/t) ranged from 32.1 (IAN 45-873) to 47.7 (RRIM 703). Only four clones viz., RRIM 703, RRIM 701, Harbel 1 and GT 1 yielded significantly more than the control clone PR 107. Girth of the trees recorded at 22 years from planting revealed significantly higher values for GT 1 (95.2 cm) than the control PR 107 (89.1 cm). In Trial II, the mean yield ranged from 41.3 (RRII 44 and PB 260) to 52.7 g/t/t (PR 255) in panel BO-1, from 46.8 (PR 260) to 61.6 g/t/t (PB 310) in panel BO-2 and from 47.6 (RRII 45) to 68.4 g/t/t (PB 310) in panel BI-1. Girth at 21 years ranged from 76.9 cm for RRII 105 to 105.0 cm for RRII 44. The results indicated that none of the clones tested were outstanding in their overall performance.

Key words: Clones, Growth, *Hevea brasiliensis*, Large-scale trial, Yield.

### INTRODUCTION

Since the introduction of the natural rubber tree [*Hevea brasiliensis* (Willd. ex Adu. de Juss) Muell. Arg] into South East Asia in 1876 by Sir Henry Wickham (Baulkwill, 1989), different breeding and selection methods resulted in the development of many improved clones. In the breeding process, large-scale clone trial is the important step for selecting potential clones for on-farm trials. This paper reports the long-term performance of certain Indian and imported clones of *H. brasiliensis* in two large-scale trials conducted in the traditional rubber growing zone of India.

### MATERIALS AND METHODS

This study was conducted at the Cen-

tral Experimental Station of the Rubber Research Institute of India at Chethackal (9° 22' N, 76° 50' E, 80 m above msl), in the South Kerala region of the traditional rubber growing zone (Vijayakumar *et al.*, 2000). Twenty clones were evaluated in two trials. Trial I included four Malaysian, two Indonesian, two Brazilian and one clone each from Sri Lanka and Liberia. Trial II included five Malaysian, two Indonesian and three Indian clones. Details of the clones evaluated are given in Table 1.

Trial I was laid out in an undulating land while Trial II was on a slope. Both the trials were laid out in randomized block design with three replications. Each experimental plot in the first trial consisted of 36 plants in square planting at a spacing of 4.9