

NEW GENERATION CLONES WITH HIGH RUBBER AND TIMBER YIELD EVOLVED FROM THE 1986 HYBRIDISATION IN INDIA

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Progenies of the 1986 hybridisation programme comprising 147 hybrid clones evolved by crossing 17 parents in 33 cross combinations were evaluated in four small scale trials at the Central Experiment Station of the Rubber Research Institute of India. The variability for yield, yield components, timber and growth traits was studied over the immaturity period and the early mature phase. Heterosis of the hybrid clones for yield, girth and bole volume was estimated. The family-wise performance for important traits as well as the clonal performances compared to the 15 parental clones were studied. Estimates of heterosis for yield ranged from 2.4 to 91.5 per cent, girth from 2.3 to 23.8 per cent and bole volume from 5.3 to 94.7 per cent. The family RR11 105 x RR11 118 produced the largest number of heterotic hybrids for rubber yield and girth while the family PB 5/51 x RR11 208 gave large number of heterotic hybrids for bole volume, girth and yield. The study identified six clones viz. 86/111, 86/117, 86/122, 86/428, 86/613 and 86/597 as the top most latex yielders and seven clones viz. 86/59, 86/468, 86/64, 86/597, 86/522, 86/61 and 86/428 as the top most timber yielders while clones 86/111, 86/428, 86/597, 86/64, 86/599, 86/99, 86/787, 86/59 and 86/79 were latex timber clones in the order of superiority in performance. The present study also confirms the superiority of clones RR11 203, PB 235 and RR11 118 for rubber yield and RRIC 52, RR11 203 and RR11 118 in terms of rubber yield, girth and timber volume.

Key words: *Hevea brasiliensis*, Heterosis, Hybridisation, Latex timber clones

INTRODUCTION

The para rubber tree, *Hevea brasiliensis* (Willd. ex A. Juss.) Muell. Arg. has been accounted as the most important source of natural rubber (NR). Performance of NR in India has been remarkable and the increase in production could be attributed to the growth in yield which experienced almost three fold increase during the last decade. Sustained productivity is the

foundation stone of successful plantation and the productivity of NR plantation could be maximised by the optimum utilization of better environment for growth by adoption of good agronomic practices and use of genetically improved clones (Attanayaka, 1998). Thus, genetic improvement plays an important role in improving the yield potential of the crop and there by enhancing productivity of the genotype.