

POTENTIAL GROWTH AND YIELD IN SELECTED BRAZILIAN WILD *HEVEA* GERMPLASM IN INDIA

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Twenty-two potential wild *Hevea* accessions along with three modern clones *viz.* RRII 105, RRIM 600 and RRII 208 were evaluated in the seventh to eleventh years of growth in the traditional rubber growing region of Kerala, India. Highly significant clonal differences were observed for yield and growth traits, except bole height. RO 2629 had the highest yield of 29.4 g t⁻¹ t⁻¹ followed by AC 716 (24.9 g t⁻¹ t⁻¹) and AC 4149 (23.6 g t⁻¹ t⁻¹), respectively. RO 2629 also had the highest girth, girth increment per year over four years and bole volume. The girth in the seventh year ranged from 26.9 cm (RO 287) to 47.8 cm (RO 2629); girth increment from 3.6 cm (RO 3804) to 6.7 cm (RO 2629); branching height from 2.2 m (RO 3804) to 3.1 m (MT 2233); wood quantity from 0.03 m³ (RO 3804) to 0.10 m³ (RO 2629). PCV was higher than the GCV for all the characters and the highest PCV was recorded for mean yield over two years. Heritability was also high for mean yield. Girth was significantly correlated with girth increment and wood quantity. RO 2629, MT 2233, AC 4149 and AC 626 ranked top with the maximum number of desirable traits. Having a different genetic background from the traditional Wickham clones, these accessions will serve to broaden the genetic base of present-day cultivated *Hevea* by introgression into the elite cultivars.

Key words: Genetic variability, *Hevea brasiliensis*, Heritability, Potential genotypes, Wild germplasm

INTRODUCTION

The Para rubber tree (*Hevea brasiliensis*) belongs to the family Euphorbiaceae and indigenous to the Amazon rainforests of Brazil. This crop is domesticated in the Southeast Asian countries including India and the natural rubber obtained from this tree is in high demand due to its enormous industrial applications. Asia accounts for 92.7 per cent of the global natural rubber (NR) production, where as India is the fifth largest producer and second largest consumer of NR. The rubber tree is cultivated

in over 7,95,135 ha in India during 2014-15, with a production of about 6,45,000 tonnes and an average productivity of 1,443 kg ha⁻¹ (ANRPC, 2016).

In view of the narrow genetic base of cultivated rubber in this region (Wycherly, 1969), a huge collection of wild *Hevea* germplasm was made by the IRRDB (Ong *et al.*, 1983) during 1981 from three states in Brazil *viz.* Acre (AC), Rondonia (RO) and Mato Grosso (MT) and distributed to member countries including India. Around 4548 accessions are being conserved in source