

EVALUATION OF GROWTH AND YIELD PERFORMANCE OF WILD *HEVEA* GERMPLASM IN TRIPURA

Krishna Das,* P. Deepthy Antony and S.K. Dey

*12112, Prestige Shanthiniketan, Whitefield Main Road, Bangalore - 560 048
Regional Research Station, Rubber Research Institute of India, P.O. Kunjaban,
Agartala - 799 006, Tripura

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The presently cultivated clones of *Hevea brasiliensis* represent only a very small gene pool. Considering the urgent need for broadening the narrow genetic base of *Hevea*, the wild germplasm collected through the 1981 IRRDB expedition from the three states of Acre, Rondonia and Mato Grosso of Brazil needs to be utilized for further improvement of the crop.

Eighty seven accessions belonging to the 1981 IRRDB collections were evaluated in two trials in the experimental farm in Tripura, North East India. The present study revealed that certain accessions had superior growth character compared to the check clone, RRIM 600. Two accessions viz. MT 4713 (74.4 cm) and MT 4874 (72.7 cm) showed significantly higher girth than RRIM 600 (63.5 cm) in trial I. In trial II, the accessions RO 5449 (46.8 g t⁻¹t⁻¹) and MT 4788 (22 g t⁻¹t⁻¹) recorded high dry rubber yield and RRIM 600 yield 55.1 g t⁻¹t⁻¹. The accession MT 4713 also recorded the highest clear bole volume (0.11 m³) at the age of 13 years growth. Anatomical studies revealed that MT 4796 had the highest bark thickness (5.8 mm) and number of latex vessel rows (7.5) among the accessions evaluated. The accessions from Mato Grosso provenance revealed superiority for dry rubber yield in comparison with the accessions from Acre and Rondonia. The superior wild accessions identified for growth and yield in this study can be utilized as parents in future breeding programmes to enrich the available gene pool of *Hevea*.

Keywords: Gene pool, Growth and yield, Wild *Hevea* germplasm

Hevea brasiliensis (Willd. ex A. Dr. de Juss.) Muell. Arg., a native of the Amazonian rain forest in Brazil, is the major source of natural rubber. Commercial rubber cultivation was the result of effective introduction of Wickham germplasm from the Amazonian rain forest of Brazil to the eastern hemisphere (Wycherley, 1968; Schultes, 1977) which consisted of a few surviving

seeds collected by Sir Henry Wickham in 1876. Most of the clones under cultivation today are derived from the Wickham base and they represent a very small gene pool compared to the wide variability of the species in its natural habitat. This narrow genetic base has further narrowed down through directional selection for yield and wide spread adoption of clonal materials