

EVALUATION OF *HEVEA* GERMPLASM : VARIATION IN BARK STRUCTURE OF WILD BRAZILIAN GERMPLASM

C. P. Reghu, Saji T. Abraham, Jayasree Madhavan,
P.J. George, S.N. Potty and K.P. Leelamma

Reghu, C.P., Abraham, S.T., Madhavan, J., George, P.J., Potty, S.N. and Leelamma, K.P. (1996). Evaluation of *Hevea* germplasm : Variation in bark structure of wild Brazilian germplasm. *Indian Journal of Natural Rubber Research*, 9(1): 28-31.

Morphological and anatomical observations were carried out on 100 randomly selected wild *H. brasiliensis* genotypes aged 24 months, belonging to the 1981 IRRDB Brazilian germplasm collection, established at the Rubber Research Institute of India. RRI 105 and CT J were used as checks. The characters studied were girth, bark thickness, number of latex vessel rows in the stone cell occupied zone, total number of latex vessel rows, density of latex vessels, diameter of latex vessels, thickness of latex vessel free zone, thickness of stone cell free zone, average distance between latex vessel rows, total cross sectional area of laticifers and test tap yield. For many of the characters the wild genotypes were inferior to the controls. There was however a wide range of variability for the characters studied. Among the wild genotypes Matto Grosso accessions showed superiority for most characters, with MT 999 being the most desirable. The high variability for vital anatomical characters related to yield can be used in crop improvement programmes.

Key words : *Hevea brasiliensis*, Brazilian germplasm, Bark anatomy.

C.P. Reghu (for correspondence), Saji T. Abraham, Jayasree Madhavan, P.J. George, S.N. Potty and K.P. Leelamma, Rubber Research Institute of India, Kuttayam - 686 009, Kerala, India.

INTRODUCTION

The rubber plantation in the eastern hemisphere, raised from a few seeds collected and introduced by Sir Henry Wickham in 1876, have only a very narrow genetic base (Schultes, 1977). To achieve high economic returns, the crop was subjected to intensive selection pressure which led to a further reduction in the gene pool (George, 1989). To broaden the genetic base an exploration expedition was launched by the International Rubber Research and Development Board (IRRDB) in 1981 to three states (Acre, Rondonia and Matto Grosso) of Brazil. The present study was made on a sample of this collection

being conserved at the Rubber Research Institute of India, with the objective of obtaining an idea on the variability in the bark anatomical traits. Information on these lines is very meagre and the data collected from the juvenile growth phase of these wild clones will be useful in identification of potential parents with superior traits, for future crop improvement programmes.

MATERIALS AND METHODS

From the wild Brazilian germplasm of *H. brasiliensis* planted in 1990 at the Central Experiment Station of the Rubber Research Institute of India, 100 genotypes were chosen for the investigations. The