SELECTION OF POTENTIAL AMAZONIAN WILD ACCESSIONS OF *HEVEA BRASILIENSIS* FOR RUBBER YIELD AND TIMBER

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Evaluation and selection of eighty Amazonian wild germplasm accessions of *Hevea brasiliensis* was done in the mature growth phase aiming to select potential accessions based on growth, rubber yield, timber yield, latex biochemical parameters pertaining to yield and field tolerance to *Phytophthora* leaf disease. The accessions represented three provenances of the centre of diversity in Brazil *viz.* Acre, Rondonia and Mato Grosso. Four accessions (MT 1032, MT 941, MT 1630, MT 915) exhibited significantly high growth performance during three consecutive years of growth (14th, 15th & 16th years) in terms of tree girth. Four accessions (AC 166, AC 2004, RO 2385, and RO 2908) were identified with respect to high dry rubber yield during the 6th, 7th and 8th year of tapping. Ten potential accessions identified for timber yield have been included in the breeding pool for developing timber-latex clones. Estimation of biochemical parameters in latex (ATP, sucrose and thiols) in eight high yielding and five low yielding accessions along with the check clone RRII 105 revealed that two accessions, AC 166 and AC 2004 (high yielders) possessed high ATP content in latex similar to RRII 105 pointing to the role of latex ATP content in determining yield in rubber clones. Thiol content in latex was also high in AC 2004. Per cent leaf retention after the disease season indicated that accession MT 922 had the highest leaf retention (82.9%) followed by MT 999 (76.7%) indicating their disease tolerance potential whereas it was only 60.0 per cent in the susceptible clone RRII 105. The selected accessions have been included in W x A hybridization programme for generating new recombinants in future.

Key words: Dry rubber yield, Disease tolerance potential, *Hevea brasiliensis*, Latex biochemistry, Timber yield, W x A hybridization, Wild germplasm

INTRODUCTION

The joint expedition made by the International Rubber Research and Development Board (IRRDB) and The Brazilian Agricultural Research Corporation (EMBRAPA) during 1981 (Allen, 1984) in the centre of diversity in Brazil resulted in conserving huge number of germplasm collection of *Hevea brasiliensis* in IRRDB member countries. The expedition team collected 64736 seeds and 194 ortets from three states of Brazil *viz.* Acre, Rondonia and Mato Grosso covering 64 locations within 16 districts (IRRDB, 1982). Fifty per cent of these collections was established in a Brazilian germplasm centre; thirty five per cent in a Malaysian centre and the rest in Cote de

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