

STUDIES ON DIVERGENCE OF *HEVEA BRASILIENSIS* CLONES FOR YIELD AND RELATED TRAITS DURING PEAK YIELDING SEASONS IN TRIPURA

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A study was carried out in ten oriental clones of *Hevea brasiliensis*, planted in a clone evaluation trial in Tripura (North East India) to understand the clonal variation and environmental influence on phenotypic expression of yield and related traits during two peak yielding seasons. Phenotypic coefficient of variation for plugging index (PI), inorganic phosphorus (Pi), sucrose content (SC), total volume (TV) and dry rubber yield (RY) was high when compared to that for initial flow (IF), dry rubber content (DRC) and total solids content (TSC). Mean performance of clones RR11 105, RRIM 600 and PB 235 was better for yield and related traits. These clones had less outflow of sucrose indicating better efficiency of metabolism. Stability of clones decreased with better yielding nature, except for RRIM 600, which showed better stability. GT 1 and RR11 118 showed higher stability for most of the traits. The 10 clones were grouped into three clusters using non-hierarchical Euclidean cluster analysis. Cluster I included high yielding clones RR11 105, RRM 600 and PB 235, cluster II consisted of RR11 118, RR11 203, PB 86 and GT 1 which were medium yielding clones and cluster III comprised the low yielding clones RR11 105, GI 1 and Harbel 1. Average inter cluster distance showed that cluster III was more divergent from clusters I and II. Phenotypic variation in the character expression for yield of clones was considerably influenced by factors, which were associated with senescence and low temperature reaction. The clones, which were stable and high yielding like RRM 600 would be more desirable for this region.

Key words: Cluster analysis, Coefficient of variation, Divergence, *Hevea brasiliensis*, Peak yielding season, Phenotypic stability.

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INTRODUCTION

Dry rubber yield, a complex trait controlled predominantly by factors related to latex production and latex flow is affected by seasonal fluctuations induced by the growing environment of the trees. Clonal variation also greatly influences the yield and yield components.

Among the non-traditional rubber growing tracts of India, the north east has emerged as a potential area for extensive rubber cultivation. The general trend of yield of rubber clones in Tripura in North East India is reported to follow a definite pattern of peak yielding during October to January every year. The season coincides with the