

IDENTIFICATION OF PREPOTENT FEMALE PARENT CLONES FROM HALF-SIB PROGENY ANALYSIS OF *HEVEA BRASILIENSIS* AT EARLY STAGE-AN ALTERNATE APPROACH TO HYBRIDIZATION UNDER SUB-HIMALAYAN WEST BENGAL

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Seven promising clones, screened on the basis of their performance over 12 to 15 years under the cold prone agro-climate of sub-Himalayan West Bengal, were evaluated as parents in polycross breeding by evaluation of their open pollinated half-sib progenies. Weight of seeds of RR11 429 was significantly higher than that of RR11 600 while that of SCATC 88/13 was at par with RR11 600. Viability of seeds from RR11 600 and RR11 429 was above 95 per cent, while viability of SCATC 88/13 seeds was low. Among the half-sib progenies of the seven promising clones, performance of progenies of SCATC 88/13 was the best in terms of mean juvenile yield and yield efficiency, despite its low seed weight and viability. Moreover, supremacy of this clone was also evident while selecting half-sib progenies showing above average yield as well in the final screening process. Out of the 28 progenies from different mother clones showing yield efficiency $>0.3 \text{ g t}^{-1} \text{ t}^{-1} \text{ cm}^{-1}$ girth, 21 progenies belonged to SCATC 88/13 indicating prepotency of this parent clone of Chinese origin. This was the first time a wild Amazonian accession (RO 5363) was used in polycross breeding and the half-sibs produced by this clone had the second largest number of juvenile high yielders after SCATC 88/13. These clones generated more number of superior progenies than the Class 1 clones RR11 600 and RR11 208. For further cloning and evaluation of potential genotypes for the agro-climate of sub-Himalayan India, 34 selected progenies (40% of the top yielders) would be conserved in source-bush nursery. The results also suggest that clones SCATC 88/13 and RO 5363 may be good female parents for further hybridization programs in cold prone regions.

Key words: Half-sibs, Juvenile yield, North-East India, Polycross breeding, Prepotency, Wild Amazonian accession

INTRODUCTION

Success of breeding by hybridization in *Hevea* depends to a large extent on the weather conditions prevailing during the

hybridization programme. *Hevea* breeding programme in cold prone North Eastern regions of India suffer from fluctuations in weather parameters during the breeding

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