

PERFORMANCE OF A POLYCLONAL SEEDLING POPULATION IN COMPARISON TO MONOCLONAL AND MULTICLONAL POPULATIONS OF *HEVEA* IN NORTHERN WEST BENGAL

Gitali Das, R. S. Singh* and D. Chaudhuri**

Rubber Research Institute of India, RES, Nagrakata, Jalpaiguri - 735 225, West Bengal, India

*Rajendra Prasad Agriculture University, Pusa, Samastipur, Bihar, India

**Rubber Research Institute of India, RR5, Guwahati - 781 006, Assam, India

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Two hundred and forty polyclonal rubber seedlings were planted in 1990 at Nagrakata, Jalpaiguri, West Bengal, in completely randomized design (single tree-single plot) at 5 x 5 m spacing and they were compared with a clonal composite population of 18 clones and a monoclonal block of clone RRIM 600 planted in the same year. Tappable girth was attained after nine years of growth. Early growth characters of this polyclonal seedling block were comparable with that of clonal composite block and monoclonal block of RRIM 600 in terms of percentage of healthy plants, wind damage, wintering-refoliation pattern, TPD and disease severity. The populations differed in average girth. Mean girth at initiation of tapping was only 43.9 cm in the polyclonal block compared to 55.9 cm in the clonal composite block and 53.8 cm in the RRIM 600 block. The percentage of plants that attained tappable girth by the eighth year of growth was similar in the polyclonal seedling and clonal composite blocks (65 and 60%, respectively) but was relatively high in RRIM 600 (70%). The average block yield of RRIM 600 was higher than that the polyclonal seedling and clonal composite blocks. The percentage of plants showing above-average block yield was similar in all the combinations. A total of 87 plants showed more than the average block yield every year over 10 years in the polyclonal seedling block. The mean yield of these 87 selected mother trees (40.5 g/t/t) was on par with the monoclonal block of RRIM 600 (39.0 g/t/t) and was higher than that of the clonal composite block (34.4 g/t/t). The trend of yield increase over years in the monoclonal block of RRIM 600 was better than that in the polyclonal and clonal composite blocks. Eighteen top ranking polyclonal seedling trees were found to show mean yield above 45 g/t/t over 10 years of tapping and had good bole volume, possessing the characters required for potential mother trees.

Keywords: Clonal composite, Growth, Polycross seedling, Selection, Yield

INTRODUCTION

Rubber (*Hevea brasiliensis*), being conventionally adapted to a tropical environment, needs to be tested in non-traditional environments prevailing in north-eastern India also, considering the limitation

in area expansion in the traditional belt. Identification of planting materials suited to this region is of prime importance, and in this direction, selection from multiclinal populations would be an easy approach. However, no single clone can address the

Correspondence: Gitali Das (Email: gitalidas@rubberboard.org.in)