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EVALUATION OF POLYCLONAL SEEDLING POPULATION OF *HEVEA BRASILIENSIS* (WILLD. EX ADR. DE JUSS.) MUELL. ARG. IN TRIPURA

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The performance of a seedling population of polyclonal origin was evaluated under the agro-climatic conditions of Tripura. Comparison of the characters of the polyclonal seedling population with a multiclonal population of the same age revealed that the seedling population is highly heterogeneous with respect to growth, yield and other useful secondary characters. Yield evaluation of the seedling population over the initial three years revealed that some genotypes are outstanding performers which recorded two to three times higher yield than the mean of the multiclonal population. In addition to growth and yield, the population was assessed for incidence of powdery mildew, wind damage and wintering pattern. Ten genotypes with high yield and useful secondary attributes were selected for further evaluation. This report, which is the first of its kind from North East India, reveals the scope for selection of promising genotypes from polycross progeny.

Key words : Breeding, *Hevea brasiliensis*, Polycross seedlings, Selection, Stress, Yield.

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INTRODUCTION

Rubber, being a cross-pollinated plant, heterogeneous seeds are produced in specially designed polycross seed gardens. Compared to clonal populations, the progeny of polycross breeding, popularly known as polyclonal seedling populations may be the ideal material to circumvent biotic and abiotic stresses. The evaluation of polyclonal seedling population for selection of outstanding genotypes in any new environment, therefore, has significance. Selection of outstanding seedling trees from rubber estates followed by their multiplication through budding and use as primary clones has been practised since the early years of rubber breeding and such clones are still under cultivation in different rubber growing countries (Fernando, 1974).

The region between 10° north and south of the equator offers the ideal environment congenial for rubber cultivation and any deviation from this latitude range is a non-traditional environment (Pushparajah, 1983). The state of Tripura (22° 56′ – 24° 32′N and 91° 10′ – 92° 21′E) in North East India thus represents a non-traditional environment for rubber cultivation. Tripura has a sub-tropical warm humid climate with a conspicuous winter season limiting the growth and yield of rubber. Strong wind accompanied by thunder showers, hailstorm and incidence of powdery mildew disease are the other stress factors affecting rubber cultivation in the region. Climatic adaptation involves the genetic adaptation of populations through the ability of individuals to buffer environmental changes by modifying their phenotypic response. Scientific information