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EARLY EVALUATION IN *HEVEA* : GROWTH AND YIELD AT THE JUVENILE PHASE

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Thirteen clones, with yield levels ranging from high to low, were evaluated for juvenile growth, yield and yield components at the nursery stage to identify early selection parameters. Computation of growth and performance indices revealed that, in general, high yielders recorded higher values in comparison to medium and low yielders. Correlations of juvenile yield with the yield components, plugging index, DRC and panel length at the age of three years were highly significant and 54.5 per cent of the total variability for juvenile yield could be accounted for by these three variables. Correlations for girth and juvenile yield between two and four years of age were also highly significant. The results reveal that based on girth and yield at two years, high yielders could be selected. However, certain vigorous medium yielders are also likely to record high juvenile yield. A rational approach to reduce progeny size as well as to ensure evaluation of all potential high yielders would be to select all genotypes giving better performance index than the general mean.

Key words : *Hevea brasiliensis*, Plant breeding, Early evaluation, Growth index, Performance index, Yield component, India.

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INTRODUCTION

Progeny evaluation in perennial crop species is a long drawn process due to the long juvenile phase and the time required for stabilisation of yield. Any reliable early prediction method would help reduce the population size for further evaluations, thereby bringing down the cost and time required for release of high yielding cultivars. Breeding in *Hevea* is hampered by the lack of fully reliable methods of predicting the performance of mature trees based on observations on young plants. The present investigation was carried out to study growth, yield and yield components of clones at the nursery stage and to examine the scope for early selection based on dependable juvenile traits.

MATERIALS AND METHODS

Thirteen clones of *Hevea brasiliensis* (Willd. ex. Adr. de Juss.) Muell. Arg., with yield levels ranging from high to low, were selected for the study. Four clones (RRII 105, RRIM 600, PB 311 and RRII 6) represented the higher yielders. The low yielders were represented by two clones (RRII 38, HP 20) and there were seven clones

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