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JUVENILE-MATURE CORRELATIONS AND ASSOCIATIONS AMONG RUBBER YIELD AND YIELD ATTRIBUTES IN *HEVEA BRASILIENSIS*

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Early evaluation techniques to shorten the breeding cycle of *Hevea* have been investigated at large, but few have systematically studied the juvenile-mature correlations which are of paramount significance in deciding early selection criteria. A population of 150 polycross seedlings belonging to ten half-sib progenies was subjected to investigations on correlations among five juvenile traits and 18 mature traits. Juvenile-mature correlations among these traits recorded over three years in the juvenile phase in a nursery and over 11 years in the subsequent mature phase of the 150 resultant clones planted in a compact family block design in the main field were studied.

Juvenile girth, bark thickness and the number of laticifers emerged as important components showing positive association with yield determined by test tapping. Rubber yield in the first four years of tapping at maturity was significantly correlated with summer yield, girth, number of latex vessel rows in the soft bast and clear bole volume. Clear bole volume showed a higher positive correlation with girth than forking height, an indication that high girthing clones can be assumed to give high timber yields. The juvenile-mature correlations indicated test tap yield of two year old seedlings in the nursery to be the only juvenile parameter with a significant positive association with yield of the resultant clones at maturity in the main field. Girth, bark thickness and the number of latex vessel rows in the juvenile seedlings had no association with yield *per se* in the mature stage and hence, resorting to selection of seedlings based on juvenile vigour alone would lead to erroneous conclusions and loss of potential high yielders.

Among the 29 clones with high yield at maturity 90% were from the high and moderately high test tap yield category while only 72% belonged to the moderate to high girth category. Only 7% of the low juvenile yielders gave high yield at maturity while 25% of the seedlings with low juvenile vigour gave high yield at maturity. The results suggest that nursery screening based on juvenile yield by test tapping remains the only reliable criterion in breeding for yield improvement. However, the relatively low strength of juv????????? ?•???????????•??????•???•???•??•?????? ????•???•???????•???•??•??????•????•???•???•? such as juvenile yield, girth and the number of latex vessel rows in 2- 3 year old seedlings could give better recovery of high yielding clones at maturity.

Keywords: Early evaluation, Girth, *Hevea brasiliensis* , Juvenile-mature correlations, Laticifers, Rubber yield, Timber

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