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CLONAL VARIATIONS IN LIPID COMPOSITION OF *HEVEA BRASILIENSIS* AT YOUNG STAGE

Evolving desirable genotypes through breeding is time consuming in *Hevea brasiliensis* because of the long breeding cycle, around thirtytwo years. Many attempts have been made to evaluate yield potential of genotypes at young stages of growth. Among various methods, test tapping is generally adopted (Dijkman, 1951). Zhongyu *et al.* (1983) reported highly significant correlation between the petiolule rubber value (ratio of the weight of rubber obtanied from latex exuding from the cut end of petiolule to the dry weight of the leaf) and lateral vein latex yield (amount and duration of exudation of latex) of one year old buddings and the mean yield per tap over the first five years of tapping of the corresponding buddings. Henon *et al.* (1984) have suggested detection of biochemical, physiological and anatomical characters to provide information about yield potential at immature stage. Higher stability of lutoid membrane and the resultant low plugging index is one of the characters associated with high yield in *Hevea*. Jacob *et al.* (1975) suggested that phosphatidic acid of the lutoid membrane might contribute towards lutoid stability and that high phosphatidic acid content of the lutoid membranes might confer a highly electronegative charge, which must be particularly useful in maintaining the colloidal stability of latex. However, Ho *et al.* (1975) found that neutral lipid content of rubber particles is also one of the factors governing plugging index. Sherief and Sethuraj (1978) reported that the content of phospholipids in the lutoids and neutral lipids in rubber particles are associated with differences in plugging indices. The levels of these lipids were found to be negatively correlated with plugging indices. For the purpose of early prediction of yield characteristics, it is difficult to separate lutoid particles and rubber particles from latex samples obtained from young *Hevea* plants. The present study was undertaken to find out whether the lipid composition of the whole latex and leaf samples of young *Hevea* plants would give an indication of their yield potential assuming that the membrane compositions of latex and leaves are correlated.

Clonal variations in the lipid composition of leaf and latex in high, medium and low yielding clones were determined in two year old plants. Fully expanded and physiologically mature sun leaves were collected from plants belonging to six clones representing high (RRII 105 and RRIM 600), medium (GT 1 and RRII 118) and low (RRII 38 and HP 20) yielders. Six plants were selected at random from each clone from a completely randomized planting of different clones and three g of leaves were collected from each plant in June, 1987. Leaf samples were collected between 8.00 A. M. and 8.30 A. M. when PAR was around 600–800 $\mu E\ m^{-2}\ sec^{-1}$. Two g of leaf samples were used for lipid estimation and one g for determining dry weight. Latex samples were collected during test tapping in December 1988 from the same plants from which leaf samples were collected.

Leaf and latex samples from individual