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GROWTH, YIELD AND FLOW CHARACTERS AND THEIR CORRELATIONS WITH BROWN BAST INCIDENCE IN TEN *HEVEA* CLONES

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Ten popular clones were evaluated for growth, latex flow characters, yield and brown bast incidence. Clones differed for initial rate of flow, duration of flow, plugging index, dry rubber content, girth, total volume of latex and dry rubber yield. Girth increment on tapping and incidence of brown bast were not statistically significant.

Brown bast incidence was positively correlated with total volume of latex and dry rubber yield. Positive relationships of this trait with initial rate of flow, duration of flow and dry rubber content and its negative relationships with girth increment on tapping and plugging index were not significant. It was indicated that high latex volume at the initial years of tapping contributed to occurrence of brown bast during subsequent years. Among medium to low yielding clones more interference of other factors was apparent.

Key words:- *Hevea brasiliensis*, Dry rubber content, Brown bast, Latex flow, Yield.

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INTRODUCTION

Brown bast is recognised as a physiological disorder affecting the laticiferous system of *Hevea* often related to exploitation (Rands, 1921; Taylor, 1926; Ng *et al.*, 1969) whether the level of exploitation of a tree or a clone is over or otherwise depends largely on its capacity to replenish the latex drained on tapping (Sethuraj, 1988) under the exploitation system followed. Morphological, anatomical and biochemical changes occurring the affected region have been demonstrated well (Bealing and Chua, 1972; Chua, 1965; Paranjothy *et al.*, 1975; Gomez, 1982) but the causative factors triggering this physiological disorder are unknown. In general when the level of exploitation, by any means such as increasing the length of tapping panel or frequency of tapping or excess stimulation, exceeds the physiological capacity for regeneration of latex the tree is likely to become affected.

In the present study certain latex flow characters, growth characters and yield of ten *Hevea* clones and the interclonal variations were studied. The influence of these traits on the extent of brown bast incidence was examined by correlation studies.

MATERIALS AND METHODS

The study was conducted in ten clones (RRIC 7, RRIC 36, RRIC 45, RRIC 52, RRIC 100, RRIC 102, RRIC 104, RRIC 105,