Indian Journal of Natural Rubber Research, 12(1&2) : 69-76, 1999

EFFECT OF TEMPERATURE AND VAPOUR PRESSURE ON MAJOR YIELD COMPONENTS OF RUBBER IN HUMID AND DRY SUB-HUMID CLIMATIC REGIONS

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Dey, S.K., Vijayakumar, K.R., Nair, D.B. and Subramanian P. (1999). Effect of temperature and vapour pressure on major yield components of rubber in humid and dry sub-humid climatic regions. *Indian Journal of Natural Rubber Research*, 12(1&2) : 69-76

Attempts were made to study the effects of temperature and vapour pressure on major yield components of *Hevea brasiliensis* in humid and dry sub-humid climates. Initial flow rate (P) is positively and plugging index (P) and dry rubber content (Cr) are negatively correlated with yield in both the climatic regions. Maximum temperature (T_{max}) showed a negative correlation and minimum temperature (T_{min}) and Vapour pressure (VP) positive correlations with initial flow rate, whereas T_{max} correlated positively with P and Cr.

Key words : Dry rubber content, *Hevea brasiliensis*, Initial flow rate, Plugging index, Temperature, Vapour pressure.

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INTRODUCTION

The production potential of any crop is an integrated effect of all environmental conditions. Rubber, being a perennial crop, has a long economic life span undergoing environmental interaction which manifests variation in yielding pattern. Monthly variation in yield is quite common even under the same number of tapping days per month. The variation in yield may be due to physiological and biochemical changes which are regulated by climatic factors.

Yield in rubber is influenced by four major components, *viz.*, length of tapping cut, initial flow rate, dry rubber content and plugging index (Sethuraj, 1981). These components are controlled by environmental factors (Rao *et al.*, 1990). The length of tapping cut is determined by the girth which is predominantly a clonal character and is influenced by the total biomass production and its partitioning between growth and latex production. Since the length of tapping cut can be manipulated by adopting different systems of exploitation, this parameter was not included in this study. The effect of climatic parameters on girth is well known (Dey *et al.*, 1996; 1998). Though the interrelationships between yield and yield contributing parameters and other associated characters were earlier elucidated, the effect of climatic parameters were not studied. From earlier studies (Saraswathyamma and Sethuraj, 1975; Yeang and Paranjothy, 1982), it has been found that approximately 45 per cent