

## GROWTH ANALYSIS OF *HEVEA BRASILIENSIS* CLONES IN COASTAL KARNATAKA REGION

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Two clone evaluation trials with five clones each were planted during 1987 and 1988 to study the adaptability of *Hevea brasiliensis* clones in the Coastal Karnataka region. Growth of the clones was monitored by measuring girth initially at annual intervals and later at quarterly intervals. The growth was compared by means of absolute girth and girth increment values. Clones PB 235 and RRII 118 were found to be the more vigorous. A quadratic trend was fitted for annual average girth as a function of age. Clones showed non-significant variation for girth increment. The growth in terms of girth increment (GI) was fitted as a power function of age (X). Since all the clones irrespective of the trials showed similar growth trend, a general equation,  $GI = 616.012 X^{-1.9982}$  was fitted. Comparison of quarterly and half-yearly girth increment has shown that, growth was maximum during the rainy season (April-October). There was no definite pattern of contribution so far as individual quarters were concerned.

Key words: Coastal Karnataka, Growth analysis, *Hevea brasiliensis* clones.

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### INTRODUCTION

Growth, expressed in terms of increment in morphological traits is an important parameter in assessing genotypes for their adaptability in growth environments. Trunk girth measurements and calculated annual girth increment are widely used in *Hevea* cultivation as parameters of growth, particularly during the period of immaturity. These parameters are also commonly used in assessing growth performance of new planting materials (Shorrocks *et al.*, 1965). Clones that are more adaptable show vigorous growth, thus reducing the initial phase before attaining tappareability.

Agroclimate of coastal Karnataka region (Region VI) nearly resembles that of the traditional rubber growing areas in India. The rainfall pattern in this region shows, four wet months from June to September, two semi-wet months from October to November and six dry humid months from Decem-

ber to May (UAS, 1989). Rubber cultivation has been extended to this region between latitudes 12.06°N to 15.16°N ranging from an elevation of 27 m to 1182 m above MSL. Initially, unselected seedling populations and later primary clones recommended for the traditional region occupied the entire rubber area in South Karnataka (Nazeer, 1990). Few biotic and abiotic constraints in this region like, diseases, severe scorching summer, heavy monsoon and poor soil fertility are unfavourable to rubber cultivation. However, no comprehensive information on the adaptability of *Hevea brasiliensis* clones in this region is available so far.

With this in background, clone evaluation trials were laid out in the Hevea Breeding Sub-Station at Nettana since 1987 to study the adaptability and performance of clones in terms of growth, yield and crop management practices. The present study being a part of that, is aimed at studying the initial growth pattern of ten clones.