

## GROWTH PERFORMANCE OF *HEVEA BRASILIENSIS* IN A DRY SUB HUMID CLIMATE OF BASTAR REGION IN CENTRAL-EASTERN INDIA

B. Krishnan, K.N. Rao and M.A. Nazeer\*

Rubber Research Institute of India, Regional Research Station

Dhenkanal 759 001, Orissa, India

\*Rubber Research Institute of India, Kottayam-686009, Kerala, India

Submitted: 12 December 2005 Accepted: 13 April 2007

Krishnan, B., Rao, K.N. and Nazeer, M.A. (2007). Growth performance of *Hevea brasiliensis* in a dry sub humid climate of Bastar region in central eastern India. *Natural Rubber Research*, 20 (1&2): 56-60.

Six rubber (*Hevea brasiliensis*) clones were evaluated for early growth performance over a period of four years, in Bastar region in central eastern India. The variation of the clones in growth and morphological characters was assessed. The clone RR11 118, followed by RR11 208 exhibited relatively higher growth during the immature phase under the stress conditions of the region.

Key words: Bastar, Central-eastern India, Clone, Growth, *Hevea brasiliensis*.

### INTRODUCTION

The growing demand for natural rubber (*Hevea brasiliensis*) in India and limited scope for further expansion in cultivation in the traditional regions (8 to 12° N of latitude), compelled to explore alternative areas in non-traditional regions of India where near tropical climatic condition exist (Sethuraj *et al.*, 1991). One of the regions selected for the purpose was Bastar in central-eastern India. In this region, high summer temperature, prolonged severe soil moisture deficit, moderate winter temperature and high wind velocity are the major constraints that may curtail the growth and yield of rubber. The effect of environmental constraints on early growth of certain clones in dry sub-humid climate in non-traditional regions have been reported (Sethuraj *et al.*, 1991; Nazeer *et al.*, 1992; Chandrashekar *et al.*, 1996;

Meenattor *et al.*, 2000 and Gupta and Edathil, 2001). However, reports on comparative performance of popular clones at immature phase under environmental constraints are rather limited. This is the first ever report on the early growth characteristics of rubber clones in the warm dry sub-humid climate of Bastar region.

### MATERIALS AND METHODS

The study was conducted in Regional Research Station of the Rubber Research Institute of India at Sukma (19°5'N, 82°2'E, 202 m MSL) in Bastar region of central-eastern India. Two primary and four secondary clones were included in this study (Table 1). The field planting was laid out in randomized blocks with two replications. The tree spacing adopted was 4.9 m x 4.9 m with plots comprising of 10 plants each. The