

GROWTH AND EARLY YIELD POTENTIAL OF A FEW RR II 300 SERIES, IRCA AND OTHER CLONES OF *HEVEA BRASILIENSIS* UNDER THE DRY SUB-HUMID CLIMATE OF ODISHA, EASTERN INDIA

Bal Krishan

Regional Research Station, Rubber Research Institute of India, Rubber Board
Dhenkanal-759 001, Odisha, India

Received: 10 January 2013 Accepted: 02 July 2013

Krishan, B. (2013). Growth and early yield potential of a few RR II 300 series, IRCA and other clones of *Hevea brasiliensis* under the dry sub-humid climate of Odisha, eastern India. *Rubber Science*, 26(2): 250-258.

The growth, girth increment, early dry rubber yield and timber yield of RR II 300 series, IRCA and a few other promising clones in the dry sub humid climate of Odisha in eastern region of India is reported. Prolonged high temperature, low rainfall and soil moisture are the major environmental constraints affecting the growth, yield and adaptability of clones in the region. Clone RR II 351 recorded the initial highest mean rubber yield ($31.03 \text{ g t}^{-1} \text{ t}^{-1}$) followed by IRCA 109 ($30.69 \text{ g t}^{-1} \text{ t}^{-1}$), whereas popular clones RRIM 600 and RR II 105 recorded 26.59 and $26.75 \text{ g t}^{-1} \text{ t}^{-1}$, respectively. Highest and lowest yield was recorded during winter and summer months, respectively. RR II 300 attained highest girth (53.03 cm) and girth increment but yield was relatively low. Highest bark thickness was recorded in PB 28/59 (6.97 mm) followed by 6.75 mm in RR II 357 and RR II 51. Highest bole volume was recorded in RR II 300 ($0.07 \text{ m}^3 \text{ tree}^{-1}$) followed by IRCA 111 ($0.06 \text{ m}^3 \text{ tree}^{-1}$). IRCA 111 recorded medium yield of $26.03 \text{ g t}^{-1} \text{ t}^{-1}$, on par with that of the popular clones. In general, the clones RR II 351, RR II 352 and IRCA 109 were found to be more promising than the popular clones RR II 105 and RRIM 600 for early yield. The results of the present study will aid in the identification of potential clones for possible commercial cultivation in the region.

Keywords: Clone performance, Dry sub-humid climate, Girth, Timber, Yield

INTRODUCTION

The Para rubber tree, *Hevea brasiliensis* (Willd.ex Adr.de Juss.) Muell. Arg. is a tropical tree native to Amazon rainforest. More than 90 per cent of the world natural rubber (NR) is obtained from rubber tree latex (Verheyne, 2010). Rubber has been traditionally cultivated in the equatorial region, in a zone lying between 10° north and 10° south of equator.

Compared to other crops, rubber is a relatively new introduction, having been brought in to cultivation in India a century ago. In the country the traditional rubber belt ($8-12^\circ \text{ N}$) encompasses the southern tips of the peninsula, where it provide appropriate environmental conditions and has been grown on a plantation scale for nearly a century.

The shrinking availability of cultivable land in the traditional region and ever