

LONG-TERM YIELD AND GROWTH PERFORMANCE OF IRCA RUBBER CLONES IN INDIA

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India introduced five hybrid clones of *Hevea brasiliensis* in 1991 from the Institut de Recherches sur le Caoutchouc (IRCA), Cote d'Ivoire. A field evaluation trial comprising of these clones and a popular Indian clone, RR11 105 was laid out during 1992 in a randomized block design with five replications and a plot size of eight plants. The trial was opened for regular tapping at the age of nine years and the growth performance and monthly dry rubber yield trend were evaluated. Significant clonal differences were observed for all the characters studied. At the time of opening, IRCA 111 and IRCA 130 were superior to all other clones in terms of vigour, while RR11 105 had the least girth. The remaining three IRCA clones were on par with RR11 105. IRCA 111 and IRCA 130 maintained their superiority over the next 10 years of tapping too. In the 10th year of tapping, IRCA 111 and IRCA 130 continued to show the highest girth, followed by IRCA 18 and RR11 105.

Clonal differences for yield were highly significant every year. In the first year of tapping, IRCA 130 had the highest yield (52.0 g t⁻¹t⁻¹). IRCA 111 (47.2 g t⁻¹t⁻¹) was on par with it, followed by IRCA 18 (39.7 g t⁻¹t⁻¹), while the check clone RR11 105 recorded 36.2 g t⁻¹t⁻¹. Yield in the 10th year continued to be the highest in the clone IRCA 130 (93.0 g t⁻¹t⁻¹) followed by RR11 105 (72.1 g t⁻¹t⁻¹) and IRCA 111 (64.8 g t⁻¹t⁻¹). IRCA 130 had the highest mean yield over ten years of tapping (76.0 g t⁻¹t⁻¹), followed by RR11 105 (56.8 g t⁻¹t⁻¹) and IRCA 111 (55.9 g t⁻¹t⁻¹) which were on par.

Yield components such as plugging index (PI) and dry rubber content were recorded in the 19th year of growth. Lowest PI was recorded in the clones IRCA 130 and IRCA 111. The clone IRCA 109 had the highest dry rubber content, while RR11 105 and IRCA 230 were on par with IRCA 130. IRCA 111 had the lowest dry rubber content. IRCA 130 remained in the top for timber volume followed by IRCA 111, IRCA 109 and IRCA 18. These four clones had significantly higher bole volume than RR11 105. Two clones (IRCA 130 and IRCA 111) with good dry rubber yield and timber yield can be considered as potential latex- timber clones.

Keywords: Dry rubber yield, Girth, Plugging index, Timber yield

INTRODUCTION

Five promising IRCA clones were introduced into India during 1991 from Cote d'Ivoire as part of the bilateral clone

exchange programme between Institut de Recherches sur le Caoutchouc (IRCA) and Rubber Research Institute of India. These elite clones were selected in the home