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FIELD PERFORMANCE OF POLYBAG AND ROOT TRAINER RUBBER PLANTS AT DIFFERENT STAGES OF GROWTH

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An experiment investigating the comparative field performance of polybag and root trainer rubber plants was initiated at the Central Experiment Station, Chethackal of the Rubber Research Institute of India representing the traditional rubber growing region in India during 2008 with clone RRII 105. The treatments comprised of combinations of two types of planting material *viz.*, direct-seeded green- budded polybag plants and root trainer plants (raised by planting budded stumps) at three growth stages *viz*., one- whorl, two -whorl and three-whorl. Observations on growth were recorded for a period of four years. Success in establishment was hundred per cent in the field irrespective of the planting material and its growth stages. The variability in girth quantified using CV for polybag one-whorl, two-whorl, three-whorl and root trainer one-whorl, two-whorl and three-whorl plants was 12.7, 12.8, 12.4, 12.4, 12.7 and 11.1 per cent respectively. The significant difference observed in the girth of the plants among the types of planting material and its stages during the initial years progressively became less apparent and by two and a half years, only three- whorled polybag plants were significantly superior to others. The same trend continued in the four years also. The performance of all other planting materials *viz*., polybag - one- whorl, two-whorl and root trainer - one-whorl, two-whorl and three-whorl was comparable. However, among these, considering the practical convenience and cost involved, root trainer one- whorl plants appeared to be the ideal planting material for commercial planting of *Hevea*. The constraints and advantages of different planting materials are also discussed.

Keywords: Growth, Immature rubber, Number of whorls, Polybag, Root trainer

INTRODUCTION

Hevea brasiliensis, the principal source of natural rubber, is a tropical perennial tree crop with a prolonged gestation period ranging from five to ten years and the need for reducing the gestation period attained importance from the day of commencement of commercial planting. The duration of immaturity in *H. brasiliensis* depends on the inherent clonal characteristics, type and quality of planting materials used, edaphic and environmental factors, agro-management practices adopted and biotic and abiotic stresses (George *et al.,* 2009). Of these, the planting material, its type and quality, is of special significance as the extent of reversibility is limited considering the long gestation phase and the life span of 25-30 years. Since early 1960s, priorities of research have been directed to shorten the period of immaturity through

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