

ROOT TRAINER PLANTING TECHNIQUE FOR HEVEA- A REVIEW

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Different aspects of root trainer planting technique such as root trainer containers, potting medium, filling of root trainers, *in situ* budding on stocks raised in root trainers, stump planting in root trainers, irrigation, fertilizer application, shading, disease control, hardening, transplanting *etc.* standardized for *Hevea* are discussed. In addition to improving the quality of planting materials, root trainer planting technique is labor-friendly and environment-friendly. Production of advanced planting materials of natural rubber in root trainers is cost effective also. The savings towards planting operations using root trainer plants add up to two third of the entire cost of polybag planting. This novel technique developed for natural rubber by the Rubber Research Institute of India is revolutionising rubber nursery industry in many countries.

Keywords: Coir pith, Hardening, *In situ* budding, Natural air pruning, Potting medium, Root coiling, Root trainer

INTRODUCTION

Introduction of natural rubber to India from Brazil *via.*, Sri Lanka and development of natural rubber plantation industry are remarkable success stories of the Indian plantation sector. In the early years of rubber cultivation in India a century ago, assorted seeds collected at random were used as the planting material and naturally, productivity was very poor. Subsequently, improved seeds from selected high yielding mother plants were used. Since *Hevea* is a cross pollinated and highly heterozygous species, seed propagation has the inherent drawback of creating very high variation in growth, vigour and yield between

individual trees in a plantation. This limitation was overcome by the successful introduction of bud grafting, which proved to be a breakthrough in enhancing the productivity of rubber plantations. With the perfection of the bud-grafting method by Van Helton in 1917 in collaboration with two planters, namely Bodde and Tass (Dijkman, 1951), the crop began to be propagated almost exclusively by cloning a limited number of high yielding trees. This method has been in practice in every rubber growing country for the past several decades. The budded plants could either be planted directly in the field (as budded stumps) or first established in polythene bags and transplanted at an advanced stage.