

## TWIN ROOTSTOCK PLANTS OF *HEVEA* DO NOT PERFORM BETTER THAN SINGLE ROOTSTOCK PLANTS

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A study was undertaken to compare the performance of plants having single rootstock (single root system) and twin rootstock (double root system) in terms of growth and yield in *Hevea*. Planting materials with single root system were produced as per the standard technique while plants with two root systems were produced by twin-grafting two stock plants at one whorl stage. Clone RR11 105 was used for the study. The plants were evaluated in the field. The design was RBD with three replications having a plot size of nine plants. Seven treatments were included; twin stocks and single stocks raised in polybags, twin stocks and single stocks raised directly in field by seed-at-stake planting, twin stocks and single stocks raised in seedling nursery and transplanted to the field as budded stumps and polybag plants as control. Annual girth was measured for 13 years and monthly dry rubber yield for four years.

The mean girth of plants having single rootstock and twin rootstock was found to be statistically comparable during immature phase as well as at the time of opening and after tapping for four years. The mean yield of plants having single rootstock and twin rootstock was also found to be comparable. On excavation after 17 years, only less than 27 per cent of the twin rootstock plants were found to have two separate fully developed root systems and in the other cases, either the two roots united or one root had become aborted. The present study showed that twin rootstock plants and single rootstock plants do not differ significantly in growth and yield indicating that twin grafting may not have an added advantage in *Hevea*.

**Keywords:** Growth and yield, Rootstock, Twin-grafting

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### INTRODUCTION

In agriculture, splice approach grafting to produce a tree with double root system is carried out in some fruit trees. The resultant tree has more than one root system and the trees are better able to obtain food and water, and can withstand stronger winds (Boonbongkarn, 1960). The twin grafting technique is also used to induce

rapid flowering and fruiting (Aumeeruddy and Pinglo, 1988) and also to enhance faster growth and to produce a stronger root system. Some preliminary reports indicate that double and triple grafted material grew more vigorously and had higher fruit set than grafted plants with single rootstocks (Zabedah *et al.*, 1992; Zabedah, 1993). In mango cultivation, grafting success in field