

A COMPARATIVE ANALYSIS OF THE IMMATURE PHASE OF POLYBAGGED PLANT AND BUDDED STUMP PLANTED FIELDS OF *HEVEA*

Toms Joseph, M. D. Jessy, K. I. Punnoose and K. Tharian George

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The study analyses the commercial realisation of the experimentally proven difference in the duration of immature phase between polybagged plants and budded stumps of *Hevea brasiliensis* under smallholding conditions and its variations under different cultural practices. The database consisted of secondary information obtained from Rubber Plantation Development (RPD) files related to 1814 polybagged plant and 471 budded stump planted fields, collected from 23 regional offices of the Rubber Board located in Kerala, Tamil Nadu and Karnataka in India. The pattern of the adoption of major cultural practices in both categories was comparatively assessed. On an average, polybagged plant and budded stump planted fields reported a duration of immature phase of 6.99 and 7.19 years respectively and the difference (73 days) was statistically significant. However, it was found that the difference in duration of immature phase was not economically significant as fields of polybagged plants required an advantage of at least 150 days to realise an annuity equivalent to that of budded stump planted fields. But an assumed 2.6 per cent higher yield in the former gave an annuity equivalent to that of the latter fields. Hence the economic advantage of fields with polybagged plants may have to originate from the cumulative economic impact of shorter immature phase, lower vacancy, uniform establishment, higher tappability and higher yield rather than from shorter immaturity period alone.

Key words: Budded stumps, Economic analysis, *Hevea*, Immaturity period, Planting material, Polybagged plants.

Toms Joseph (for correspondence), M. D. Jessy, K. I. Punnoose and K. Tharian George, Rubber Research Institute of India, Kottayam-686 009, Kerala, India (Email: rrii@vsnl.com).

INTRODUCTION

Natural rubber (*Hevea brasiliensis*) is a perennial tree crop with a prolonged immature phase ranging from five to ten years, depending on the type of planting materials, agro-ecological factors and management practices. The history of commercial planting of rubber in India began with the use of unselected seeds followed by selected seeds. Later, the traditional unselected/selected seedlings were replaced by clones with the commercialisation of vegetative methods of propagation during the early 1920s. Simultaneously, changes occurred in the type

of planting materials used from seed at stake to seedling stumps and thereafter to budded stumps and advanced planting materials. The advanced planting materials consisted of polybagged plants, stumped buddings and soil core stumps. However, the most popular among the advanced planting materials were polybagged plants. The budded stumps are planted in the field before the development of buds and the growth of the plant takes place entirely in the field. But in the case of polybagged plants, a part of the growth is effected in the nursery thus reducing immaturity period in the field, though the cost is relatively higher