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METHODS TO IMPROVE ESTABLISHMENT SUCCESS AND GROWTH OF GREEN BUDDED STUMPS OF *HEVEA* IN POLYBAGS

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Studies were undertaken in the polybag nursery for two successive years to investigate whether indole butric acid (IBA) and water enhanced establishment of green budded stumps of *Hevea* in polybags. Three different concentrations *viz*. 250 ppm, 500ppm and 1000 ppm IBA were used for the study. A simple technique of keeping tap root of green budded stumps dipped in fresh water for 4-5 hours before planting in polybags was also attempted. Examination of the stumps after four months from application showed that IBA at 500 ppm and water gave 73.16 % and 66.27% establishment, respectively whereas it was 53.50% in the control. IBA at the concentration of 500 ppm and also fresh water treated stumps recorded better height, diameter, and number of whorls than the untreated stumps. Dry weight of lateral roots showed better response of 138% (500 ppm IBA) and 125% (fresh water) over the control. The results of this study indicated higher production of lateral roots after the IBA and water treatments and thereby better establishment of green budded stumps in polybags.

Keywords: Green budding, Growth of *Hevea,* IBA and Water

INTRODUCTION

The green budding technique on root-stock of five to six months old is the most commonly practised propagation method in *Hevea.* Optimum time for green budding is the dry months from January to March in the traditional rubber growing regions in India. It has been observed that green budded stumps when planted in polybags often showed high percentage of casualty due to dieback of the scion (RRIM, 1964; Marattukalam and Varghese, 2000). Some of the causes for the dieback of green budded stumps were the delay in initiation of lateral roots due to progressive desiccation of stumps and low carbohydrate reserve (Hafsah and Pakianathan, 1979). Delayed planting of green budded stumps in polybags causes further desiccation and reduces viability of the stumps due to water loss (Pakianathan and Tharmalingam, 1982). To overcome such adverse situations, methods were tested to improve the establishment success in polybags by inducing early rooting and prevent desiccation. The objectives of the study were to determine the optimum concentration of indole butric acid (IBA), a rooting hormone widely used in horticultural nurseries to

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