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RESPONSE OF THE HIGH YIELDING *HEVEA* CLONE RRII 105 TO FERTILIZERS

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In an experiment to assess the fertilizer requirement during immature stage of *Hevea brasiliensis* clone RRII 105 laid out in an acidic soil of high organic carbon and low P and K status it was observed that 30, 30 and 20 kg/ha/year of N, P_2O_5 and K_2O respectively were sufficient for growth improvement. In the early tapping phase highest yield was observed when 60, 30 and 40 kg/ha/year of the nutrients were applied. Though P build up was noticed in all the plots when it was applied, K and organic carbon contents were not influenced by the treatments. There was no influence of the treatments on leaf N and P status.

Key words: Fertilizers, Growth, *Hevea*, Nutrient status, Yield.

INTRODUCTION

Judicious nutrient management has long been considered essential for improving the growth and yield of rubber. Nutrient requirement of rubber is generally considered to be low as the earlier plantations were raised mostly in newly cleared forest soils rich in plant nutrients. Moreover legume ground covers are established along with rubber in the interspaces and are retained during the initial three to four years. Besides N fixation by these legumes, decaying ground covers also add large quantity of organic matter and nutrients to the soil. Rubber being a deciduous tree adds about seven to eight tonnes of litter and nutrients in the range of 94 to 130 kg N, 5 to 6 kg P, 22 to 25 kg K, 106 to 168 kg Ca and 17 to 33 kg Mg per hectare per year (Varghese *et al.*, 2001). Nutrient removal from the system is limited only through latex and wood. The existing rubber plantations are in the second or third cycle of planting and more and more marginal lands low or deficient in nutrients are brought under rubber cultivation. Hence nutrient management should be given adequate importance to sustain productivity at economic levels.

Although beneficial effect of fertilizer application on improving the growth of rubber was reported (George, 1964; Punnoose *et al.*, 1975) in most of the experiments, the response was confined to the early years of immaturity. No consistent yield response to fertilizer application was observed in many experiments (George, 1961; Pushpadas *et al.*, 1979). Clonal differences in the fertilizer requirement was also reported (Bolle-Jones and Ramasingam, 1954; Shorrocks, 1965). At present more than 90 per cent of

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