RESPONSE OF YOUNG *HEVEA* PLANTS IN TRIPURA TO FERTILIZERS

The *Hevea* tree is known to thrive in marginal soils, and responds to fertilizer application, particularly in poor soils. Based on experiments conducted in Indonesia, it was reported that higher doses of NPK during immaturity period helped in reducing the gestation period (Dijkman, 1951). Results of a long-term fertilizer experiment in Malaysia on a sandy latosol indicated that the higher effect, both on growth and on yield, was obtained by fetilizer application during the immature phase (Bolton, 1960). The major nutrients, viz. nitrogen, phosphorus and potassium, were found to influence favourably the growth during the immature phase and marked response was reported for soluble phosphatic fertilizers. It was also reported that the effects of nitrogen and phosphorus had been significant (Akhurst & Owen, 1950; Owen *et al.*, 1957).

Fertilizer recommendations for *Hevea*, at various stages of growth, have been formulated by the Rubber Research Institute of India (Pushpadas & Ahamed, 1980) based on field experiments conducted in the traditional rubber growing tracts in India as well as on information available from other rubber growing countries. Nutrient requirement of field planted polybag plants is likely to be higher and proper growth during the early phase can be achieved only with adequate nutrient supply. This is particularly important in the North East India where the soil is highly depleted due to shifting cultivation practised over the years. The situation is aggravated by the routine practice of cutting and removing thatch grass (Laskar *et al.*, 1983). Hence, to ensure satisfactory growth during the earlier phase a higher amount of nutrient input is required than what has been recommended for the traditional region. The present investigation was taken up to monitor the influence of higher levels of N, P and K on growth of *Hevea* during the early immature phase using polybag plants as planting material. A comparison of water soluble and water insoluble sources of phosphorus for the first two years was also attempted.

The field experiment was laid out in September 1986 at the demonstration farm of the Nucleus Rubber Estate and Training Centre of the Rubber Board at Tulakona, 13 km from Agartala. Ten months old polybag plants of clone RRIM 600 were used for planting. The trial was laid out in a randomised block design with six treatments and three replications. The details of the treatments are indicated in Table 1. The treatments were decided so as to distinguish the influence of water soluble and water insoluble phosphorus on the growth of rubber. Fertilizers were applied during May as well as September/October. Nitrogen was supplied as urea, water soluble phosphorus as superphosphate, water insoluble source as Mussoorie rock phosphate and potassium as muriate of potash. *Pueraria phaseoloides* was established as the ground cover in the experimental area. Other cultural operations were carried out following the recommendations of the RRII. Girth was recorded periodically. Standard analytical procedures were followed for collecting samples and estimating available nutrients in the soil.

The fertility status of the soil is given in Table 2. The status of organic carbon is