

AVAILABLE NUTRIENT STATUS OF THE RUBBER (*HEVEA BRASILIENSIS*) GROWING SOILS OF TRIPURA

Tripura state in North East India now occupies second position in area and productivity among the rubber growing states of India with over 24000 ha under cultivation. The soils of this region are mainly derived from parent rocks of sandstone, silt stone and shale (Battacharya *et al.*, 1996; 1998). The soil temperature regime is hyperthermic and moisture regime udic. The area experiences a short water deficit of 100-150 mm during post monsoon period. An attempt has been made to assess the status of available major nutrients and magnesium (Mg) in the soil covering the main rubber growing areas of Tripura.

Soil samples collected from rubber growing areas of Tripura for advisory purpose were utilized for this study. One thousand seven hundred and fourteen soil samples were collected during 1996 to 2000 from the districts of West, South and North Tripura. A few samples from barren lands were also collected and analysed for comparison. The samples were air dried, passed through 2 mm sieve and then analysed for major nutrients. Organic C content was determined by wet digestion method. This was taken as a measure of available N in the soil. Bray-I extractant was used for extracting the available soil P. Neutral, normal ammonium acetate was used for K estimation. pH was measured in 1:2.5 soil water solution (Jack-

son, 1973). Mg was determined with the help of an atomic absorption spectrophotometer. After analyzing the samples, the soil test values were classified as low, medium and high for organic C, available P, K and Mg. The nutrient rating (critical levels) for rubber cultivation followed in the present study are given in Table 1. Nutrient index values for N, P, K and Mg were calculated using the concept of Parker *et al.* (1951). The limits suggested by Ramamoorthy and Bajaj (1969) were adopted for interpretation of nutrient indices.

Table 1. Critical levels of soil nutrients for rubber cultivation in Tripura

Nutrient	Low	Medium	High
Organic carbon (%)	< 0.75	0.75 - 1.50	> 1.50
P (mg/100 g)	< 1.00	1.00 - 2.50	> 2.50
K (mg/100 g)	< 5.00	5.00 - 12.50	> 12.50
Mg (mg/100 g)	< 1.00	1.00 - 2.50	> 2.50

Soil analysis data of the rubber growing areas and barren lands in Tripura are given in Tables 2 and 3 respectively. The barren land had low soil organic C status taking into consideration the critical level fixed for rubber. The available P and K were low while available Mg was high. Low organic C content in the soils of this region may be due to the indiscriminate jhuming preceded by burning of litter debris (Krishnakumar and Potty, 1989; Krishnakumar *et al.*, 1990, 1991). Continuous removal of thatch grass in huge