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STATUS OF DTPA-EXTRACTABLE MICRONUTRIENTS IN RUBBER GROWING SOILS OF TRIPURA

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The DTPA extractable cationic micronutrients and their relationship with some important soil properties, representing major rubber growing soils of Tripura were investigated. In general, the rubber soils of Tripura were red lateritic, sandy loam or sandy clay loam in texture and acidic in reaction. Micronutrient cations, *viz.* Mn, Fe, Cu and Zn, ranged from 0.62-37.6, 6.1-42.2, 0.25-2.56 and 0.18-6.56 mg/kg soil, respectively. The availability of these micronutrients was found higher in top soil than that in subsoil. All the micronutrients showed significant negative correlation with soil pH indicating that their availability is largely influenced by acidic nature of the soil. Mn, Cu and Zn showed positive and significant relationship with organic carbon and clay content of soil, suggesting that their availability is high and is controlled by these two soil components. Regression analyses for DTPA-Zn revealed that majority of available zinc was organically bound. Fe showed positive and significant relationship with clay and CEC of soil, indicating that availability of Fe is largely controlled by inorganic minerals in the soil. Considering the critical limits of soil micronutrients, the rubber growing soils of Tripura were well supplied with DTPA extractable micronutrients.

Keywords: DTPA-micronutrients, *Hevea brasiliensis*, Rubber-soil

INTRODUCTION

Influence of micronutrients in natural rubber (*Hevea brasiliensis*) plantation was documented by Jones (1954). Though micronutrients are required only in small quantities, their deficiency in soil affects the growth and yield significantly. Increased cropping intensity coupled with continued use of high analysis fertilizer often leads to deficiency of micronutrients in soil. In traditional rubber growing areas (Kerala and Kanyakumari district of Tamil Nadu), zinc (Zn) deficiency was reported by Joseph *et al.* (1995). In north-eastern region of India, deficiency in micronutrients, particularly Zn was reported by many workers (Satisha *et al.*, 2000; Das and Talukdar, 2003; Barua, 2006).

In Tripura, around 46,500 ha land is brought under rubber cultivation till 2008-09 of which around 23,000 ha is under mature plantation. The soils of Tripura are highly weathered and poor in nutrient content (Chaudhury *et al.*, 2001). Intense leaching due to high rainfall in the area causes loss of bases and soil nutrients leading to soil acidity. Therefore, chances of micronutrient deficiency in these soils could

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