DIAGNOSIS AND RECOMMENDATION INTEGRATED SYSTEM
1. FORMULATION OF DRIS NORMS FOR *HEVEA BRASILIENSIS*

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The Diagnosis and Recommendation Integrated System (DRIS) involves the use of nutrient concentration ratios to determine the relative sufficiency of nutrients within the plant tissue. A data bank comprising yield, leaf nutrient concentration for nitrogen (N), phosphorus (P), potassium (K), calcium (Ca) and magnesium (Mg) and soil fertility status from 1200 individual fields from 15 estates representing the major rubber growing regions of South India was built. DRIS norms for the nutrients N, P, K, Ca and Mg were developed from a regrouped data set having uniformity in age and system of tapping. The variance ratio (low yield/high yield) was highly significant for the nutrient combinations involving Mg indicating the direct role of Mg on latex yield. The mean values and the corresponding cv from the high yielding population for the ratio N/P, K/N, K/P, Ca/N, Ca/P, Ca/K, Ca/Mg, N/Mg, P/Mg and K/Mg were selected as the standard norms.

Key words : *Hevea brasiliensis*, DRIS, Foliar diagnosis, Data bank, India.

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INTRODUCTION

Investigations on the use of leaf nutrient contents as indicators of nutrient uptake by the rubber plant was first reported by Chapman (1941). The standard procedure for the collection of leaf samples for chemical analysis was formulated by Shorrocks (1962). Further research on sampling methods and on interpretation in relation to plant characteristics and growing conditions for different clones of rubber were reported by Guha and Narayanan (1969), Pushparajah and Tan (1972) and Chan (1971, 1974). At present, the sufficiency range approach is being followed for assessing the deficiency or sufficiency of individual nutrients. The threshold values have been established from field experiment data assuming that all factors limiting growth and yield are minimised (Potty, *et al.,* 1976; Pushpadas and Ahammed, 1980).

The Diagnosis and Recommendation Integrated System (DRIS), considered to be an holistic approach to the mineral nutrition of crops, was first developed by Beaufils (1973). It is an integrated set of norms which represent calibration of plant tissue composition, soil composition, environmental parameters and farming practices as functions of yield of the crop