

ABSTRACT

Six extractants, 1 M NH_4OAc (pH 7), 1 M NH_4OAc (pH 4.8), 0.1 M HCl, 0.05 M HCl + 0.0125 M H_2SO_4 , 0.02 M EDTA, 0.02 M EDTA + 0.5 NH_4OAc (pH 4.65) were used to determine available Fe, Mn, Cu and Zn in twelve samples of sandy soils belonging to the Great Soil Group, Regosol. "Easily reducible" Mn and "available" B were extracted by 1 M NH_4OAc and 0.2% hydroquinone (pH 7), and hot-water respectively. Total amounts of each of the 5 micronutrients in the soils were also determined.

The soils were generally high in extractable Fe and low in Cu. Manganese concentrations were also high except the soils formed on coral materials, Koggala, Harumalgoda and Ahangama from the wet zone and having pH values of 7.80, 7.60 and 5.40 respectively. Boron and Zn concentrations ranged from low to high levels. Concentration of the nutrients in the leaf followed generally the same pattern as in the soils.

Correlations of extractable soil nutrients and leaf nutrients indicated that acid extractable Fe, hydroquinone extractable Mn and EDTA extractable Zn were significantly related to the respective nutrient concentrations in the 14th leaf.

Concentrations of Fe, Mn and Zn in leaf increased and Cu decreased with the maturity of the leaves. Boron concentrations did not change significantly with the age of the leaves.

Acid and EDTA extractable forms of Fe and Zn decreased with increase in soil pH but total and hot-water extractable B increased with soil pH. Organic carbon increased exchangeable Cu, Fe and hot-water extractable B. Ammonium acetate extractable Cu and Zn had negative correlation with % clay, whereas Mn extracted by most extractants including NH_4OAc had positive correlations.