Boron status of paddy soils in the states of Kedah and Kelantan Malaysia.

ABSTRACT

Management of micronutrient B in soil is difficult because of its high mobility. Soil sampling and analysis is the first important step in managing the nutrients required by plants. This study was conducted to evaluate the B status in soils of rice growing areas in Kedah and Kelantan which are the main rice growing states of the country. Soil samples were collected from 15 soil series namely Kranji, Sedeka, Guar, Kundur, Tualang, Teluk Chengai, Kuala Kedah, Rotan, Sedu, Kangkong, Batu Hitam, Lubok Itek, Tepus, Telemong and Chempaka to determine B status and other physico-chemical properties. The soils of paddy growing areas investigated were very low in available B status. All the fifteen soil series had B below 0.5 mg kg-1, irrespective of depth and locations. Kundur and Chempaka Series soils had the highest B content (0.46 mg kg-1) among all the series while the Tualang Series soil had the lowest B (0.22 mg kg-1). Boron status in soils differed significantly with depth; the upper layers had higher B concentrations compared to lower depths because of high organic carbon content. Boron showed a positive correlation with organic carbon content but a negative correlation with soil pH.

Keyword: Correlation study; Hot water extractable B; Paddy soils.