

Selected Trace Minerals Concentration Found in Two Varieties of Sweet Potatoes (*Ipomea batatas*) Grown on Bris Soils in the East Coast of Peninsular Malaysia

ABSTRACT

Two varieties of sweet potatoes, one orange and the other purple grown on Rudua soil series and Jambu soil series, respectively, belonging to the BRIS soils were chosen for this study. These two varieties of sweet potatoes were analysed for their trace minerals composition in their respective tuber tissues. In addition, soil pH and soil moisture content were also determined. Rudua soil series had higher trace minerals content than that of Jambu soils series. The trace element concentrations in the tissues of sweet potatoes ranged from 0.037-0.130 mg/kg in Zn for 0.281-0.334 mg/kg for Fe to 0.014-0.032 mg/kg for Cu to 0.298-0.508 mg/kg for Ni and 0.746-2.16 mg/kg for Pb on dry matter basis. The soil pH is less acidic in Rudua series (5.97) compared to Jambu series (5.26), which favors higher concentrations of trace elements in the orange variety compared to Purple variety. There is also a positive correlation between nutrient concentration in the tissues of the sweet potatoes and the amount of trace minerals concentration available in the soils. This study exhibits the fact that uptake of trace minerals by the sweet potatoes is governed by the presence of these minerals in the soils, soil pH and soil moisture content.