

**Distribution Of Trace Elements in Kendinga Rice (*Oryza Sativa* Subsp. *Javanica*)
Cultivated in Ultrabasic Soil, Crocker Range, North Borneo**

ABSTRACT

Limited flat land in Ranau district, North Borneo to grow staple food such as rice had prompted locals to expand hill paddy areas in ultrabasic terrain which generally comprise a high concentration of trace elements such as cobalt, chromium and nickel can pose toxicity risk and detrimentally affect consumer's health. The main purpose of the study is to determine the distribution of selected trace elements (Co, Cr, Cu, Fe, Mn, Ni, Pb and Zn) in indigenous Kendinga rice landraces plants (root, stem, shoots and grain) that were cultivated in ultrabasic soil area of Ranau district and rice rhizosphere soils by inductively coupled plasma-optical emission spectrometry (ICP-OES). A high total of trace elements concentration was traced at rice cultivation areas. However, the bioavailability of trace elements in soil for plant absorption is low. The rice grains were deemed safe to consume as it was below the Malaysia Food Regulation 1985 (MFR 1985) maximum permissible limit. Translocation of trace elements were restricted to grain parts and were mainly accumulated in roots of Kendinga rice plants. Unused ultrabasic soil can be cultivated with Kendinga rice as it poses low health risk to consumers which can aid food security in increasing local rice self-sufficiency level and contribute to subsistence farming side income.