

**AVAILABILITY OF HEAVY METAL CONCENTRATION IN SOIL
AROUND THE OIL PALM (*ELAEIS GUINEENSIS*) PLANTATION**

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ABSTRACT

AVAILABILITY OF HEAVY METAL CONCENTRATION IN SOIL AROUND THE OIL PALM (*ELAEIS GUINEENSIS*) PLANTATION

Four heavy metals (Cu, Zn, Pb and Ni) in nine different soil sampling point at oil palm (*Elaeis guineensis*) plantation were determined by Inductively Coupled Plasma – Optical Emission Spectrometry after wet digestion. This study focus for a number of heavy metals (Cu, Zn, Pb and Ni) that most commonly found at contaminated sites. The ranges of element concentrations for copper, zinc, lead and nickel were 0.76 – 2.00, 0.19 – 1.58, 0.07 – 0.22, and 0.01 – 0.05 mg/kg respectively. Copper content was higher than other metals in all soil samples. The concentration of heavy metals in soil show the following decreasing trend: Cu > Zn > Pb > Ni. All of the metal content level were below than permissible limit that recommended by World Health Organization. The Contamination Factor (CF) value was less than 6 for all heavy metal in nine different soil samples that supposedly not higher contaminated. All soil samples had geo accumulation index (Igeo) less than 2 that consider as uncontaminated. This generally indicate that the soil at oil palm plantation not totally consider as toxicity.

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