ASSESSMENT OF Zn, Fe Mn AND Ni POLLUTION AROUND AGRICULTURE AREA BY USING MOSSES AS BIOMONITOR

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ABSTRACT

ASSESSMENT OF Zn, Fe, Mn AND Ni POLLUTION AROUND AGRICULTURE AREA BY USING MOSSES AS BIOMONITOR

The aim of this study was to determine the concentration of Zn, Fe, Mn and Ni in the moss samples around Felda Mawar Jengka 10 plantation area, Bandar Pusat Jengka, Pahang. Eight samples were collected from two locations where each of the location has four different sites with different distances from the main road; 25m, 50m, 75m, and 100m. The concentration of atmospheric heavy metal was estimated by using mosses as bioindicator and the metal concentration in mosses were analysed by Flame Atomic Absorption Spectrometer (FAAS). The mean concentration of heavy metal in moss samples were; Zn with 21.39 mg/kg, 351.92 mg/kg for Fe, 55.68 mg/kg for Mn and 8.56 mg/kg for Ni and were ranked as: Fe > Mn > Zn > Ni. Two different parameters were used to describe the contamination level of these metals around the studied area: Enrichment Factor (EF) and Pollution Load Index (PLI). The EF values clearly indicate that, only 10% of the overall metal contents were strongly related to the anthropogenic sources. Most of the metals were originated from natural sources. With the PLI values were obtained below one, its strongly suggest that the study area has not been contaminated with the studied elements.