Physico-chemical properties of peat soil at Klias forest reserve, Beaufort, Sabah

ABSTRACT

The study area located at Klias Forest Reserve, Beaufort, Sabah with an approximately covered area of 3,630 ha. The entire area consists of Crocker Formation and Quaternary deposits. There are 28 soil samples and three types of water samples were collected to analyse the physico-chemical properties. The result of the analysis shows the moisture content was in the range from 110.97%- 1900.00%. The range of organic content in the soil was 21.09%-100%. The acidity pH value of soil and water samples in the range from 2.76-5.77. The texture of the soil is classified as clay and silty clay loam. The clay soil was classified as silty clay. The maximum average concentration of the soil consists of Fe with the average of 1195.57 ppm and followed by Zn, Mn, Cu, Pb, Cr, Ni with concentration level 137.35 ppm, 70.64 ppm, 60.49 ppm, 45.21 ppm, 27.08 ppm, and 17.59 ppm respectively. All water sample shows element Fe as maximum concentration with the average of 9.49 ppm, and followed by Zn, Mn, Cr, Pb with concentration level 5.52 ppm, 0.27 ppm, 0.04 ppm, and 0.02 ppm respectively. The mineral content of the soil mainly contains muscovite, quartz, chlorite, and illite.