ADSORPTION OF METSULFURON METHYL ON SELECTED AGRICULTURE SOILS IN JENGKA, PAHANG

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ABSTRACT

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The properties of soil affect the adsorption of metsulfuron methyl on soils. The properties of soil that studied were particle size analysis, moisture content, pH of the soils, organic carbon and organic matter content. The adsorption of metsulfuron methyl herbicide was determined in two types of soil samples taken from rubber estate and fruit farm in Pahang using batch technique. Soil samples were taken by two different depths that were at 0 cm to 10 cm depth and at 20 cm to 30 cm depth. High Performance Liquid Chromatography instrument was used to measure the concentration of herbicides in the sample solution. The adsorption behaviour of herbicide was evaluated using linear adsorption isotherms and linear Freundlich isotherms. Results indicate that soils from Rubber Estate (20cm-30cm) (RE) (2) soil exhibited strongest adsorption affinity for the herbicides compare with other soils. RE (2) has the lowest pH and highest organic matter than other soil samples. Thus it could be concluded that the varying adsorption coefficient values observed resulted from differences in soil properties.