THE EFFECT OF OIL PALM EMPTY FRUIT BUNCH BIOCHAR ON ARSENIC AVAILABILITY BY INCUBATION STUDIES

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DECLARATION

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TABLE OF CONTENTS

ABSTRACT

Biochar is a carbon-rich solid material derived from the agriculture pyrolysis process and forest residual biomass. Due to the high production of empty fruit bunch (EFB) from oil palm mill, this waste was used as a biochar feedstock. Empty Fruit Bunch biochar was taken from UPM Serdang and the soil taken from UITM Jasin sharefarm was artificially contaminated by arsenic (As) and amended with different application rate of biochar which were 2.5, 5.0 and 10 t ha^{-1}, respectively, in aerobic condition. The nutrient content and As concentration in soil sample were examined through dry ashing method. The sample were collected based on weekly basis for four weeks. The results showed that the addition of EFB biochar to soil did not have any significant influence on the concentration of As, even at the highest application rate. However, applications of biochar reduce the contamination of As by 25.2%. Long term studies of incubation of biochar with different rate of biochar application are necessary to prove that biochar can reduce the arsenic availability in soil.