

**THE ABILITY OF BIOCHAR AND ACTIVATED BIOCHAR AS ARSENIC
ADSORBENT**

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**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Plantation Technology and Management
in the Faculty of Plantation and Agrotechnology
Universiti Teknologi MARA**

JULY 2016

DECLARATION

This Final Year Project is a partial fulfilment of the requirements for a degree of Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

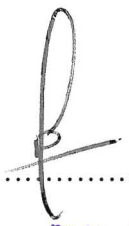
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ACKNOWLEDGEMENTS

Alhamdulillah. Thanks to Allah SWT, whom with His willing giving me the blessings and strengths to complete this Final Year Project about 'The Ability of Biochar and Activated Biochar as Arsenic (As) Adsorbent'. Special thanks and appreciation to my parents, family, and others for their cooperation, encouragement, suggestion and support in completion my course research, from the beginning, during and till the end. This final year project report was prepared for student in final year to complete the undergraduate program that leads to the degree Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA (UiTM). Firstly, I would like to express my thanks to Madam Norazlina Abu Sari, a lecturer at Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA (UiTM) and also as my supervisor for guidance and advice during this semester for my research work. Lastly, I would like to deepest thanks to people who was helped me direct or indirectly during my course research until it was completed.

MUNIRAH BINTI ABDULLAH HADI

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ABSTRACT

THE ABILITY OF BIOCHAR AND ACTIVATED BIOCHAR AS ARSENIC ADSORBENT

The experiment was conducted to investigate the ability of biochar and activated biochar as arsenic (As) adsorbent. Adsorptions of heavy metal such as arsenic (As) onto EFB biochar and EFB activated biochar have been studied using batch adsorption method. This study was carried out to examine the adsorption capacity of the EFB biochar and EFB activated biochar in removing arsenic (As). Batch adsorption method was conducted with different initial arsenic (As) concentrations to give different final equilibrium concentration as a function of solute adsorbed per gram of adsorbent. The potential adsorption by EFB biochar and EFB activated biochar for arsenic (As) removal was investigated to determine the efficiency of the biochar and activated biochar as the adsorbents. The initial concentrations were highest were equilibrium relationships between adsorbent and adsorbate which is described by adsorption isotherms model which give the capacity of adsorbent for an adsorbate. Result shows the adsorption rate increased with increased level concentration of arsenic (As). Results indicated that the EFB biochar is locally available, low cost adsorbent and treated as economically viable for the removal of metal ions from mining or agriculture effluents.