THE COMPARISON OF CHEMICAL PROPERTIES BETWEEN BIOCHAR AND ACTIVATED BIOCHAR DERIVED FROM EFB AT SAME TEMPERATURE

MUHAMMAD SHAFIQ BIN BADORASHIAM

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

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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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Name: MOHAMMAD SHAPEE BIN BADRUL RAHIM

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

Signature: ...........................................

Name of Supervisor: ...........................................

Position: ...........................................

Date: ...........................................
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In the name of Allah S.W.T The Most Merciful and Most Gracious

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ABSTRACT

THE COMPARISON OF CHEMICAL PROPERTIES BETWEEN BIOCHAR AND ACTIVATED BIOCHAR DERIVED FROM EFB AT SAME TEMPERATURE

This research was conducted to observe the chemical properties of different types of biochars. Research and analysis was conducted at UiTM (Melaka) Kampus Jasin for four months beginning from January to June 2016. Sources of biochars is oil palm’s empty fruit bunch (EFB), all the biomass were collected at farms and estates around Melaka. Biochars are produced using the pyrolysis process, where there is less or no oxygen available to ensure the partial combustion of biomass. Each biochar are pyrolyzed at specific temperatures. Which resulted, a material rich in carbon content and can be applied to soil as amendment to improve soil’s physical and chemical condition. Chemical properties such as pH value, total nutrient contents and total heavy metal were observed and tested in soil science laboratory in UiTM (Melaka) Kampus Jasin. Results showed that there were significant difference between biochars and activated biochars. The result from the study also shows that the activated biochar contains less of total nutrient but greater in adsorption and also pH value. As a result, activated biochar are greater than the biochar in terms of adsorption and pH value.