

**CHARACTERIZATION OF FRUIT PULP WASTE
FERTILIZER ON ANTIOXIDANT ACTIVITIES IN
*Vigna radiata***


MOHAMAD SYUKRI BIN JAMALUDDIN

**Final Year Project Report Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Biology
In the Faculty of Applied Sciences
Universiti Teknolog MARA**

JANUARY 2016

APPROVAL SHEET

This Final Year Project Report entitled “**Characterization of Fruit Pulp Waste Fertilizer on Antioxidant Activities in *Vigna radiate***” was submitted by MohamadSyukri Bin Jamaluddin, in partial fulfilment of the requirements for the Degree of Bachelor of Biology (Hons) in the Faculty of Applied Sciences and was approved by



Mr. Zaini Bin Nawahwi

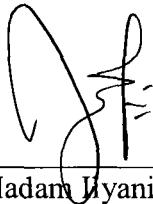
Supervisor

Faculty of Applied Sciences

Universiti Teknologi MARA

72000 Kuala Pilah

Negeri Sembilan



Madam Nyanie Binti Haji Yaacob

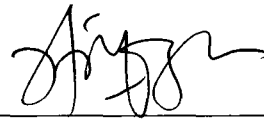
Project Coordinator

Faculty of Applied Sciences

Universiti Teknologi MARA

72000 Kuala Pilah

Negeri Sembilan



Dr. Noraishah Abu Shah

Head of Biology School

Faculty of Applied Sciences

Universiti Teknologi Mara

72000 Kuala Pilah

Negeri Sembilan

Date: 20/1/16

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ABSTRACT

Characterization of Fruit Pulp Waste Fertilizer on Antioxidant Activities in *Vigna radiate*

Fertilizer refers to a soil amendment that guarantees the minimum percentages of nutrients. Fertilizer can increase the plant production but also can cause problem to the plant and ecosystem. Organic fertilizer increase plant growth but it is very slow. In the other hand, using the chemical fertilizer can make the plant grow faster but it can damage the composition in soil and damage the ecosystem for long term. The objectives of this study is to prepare a eco-friendly fertilizer from orange fruit pulp waste and to compare the effect of different type of fertilizer on Mung bean plant based on total phenolic content, flavonoid content and vitamin C content. Generally, although organic fertilizer used in crop yield need more time compare to chemical fertilizer but chemical fertilizer may harm the plant and also effect human. Therefore, Home-made fertilizer which basically combination of brown sugar with fruit pulp wastes can be used to replace the use of chemical fertilizer. The Mung bean used in the experiment was grown for three week. After that, the home-made fertilizer, organic fertilizer and chemical fertilizer were prepared for one week. The Mung bean plant was move into four groups with four type of treatment. After one week in the treatment, the Mung bean leaves was harvested prior to plan extraction. Antioxidant assay was done to the plant extraction to determine phenolic, flavonoid and vitamin C content and then the result of the plant was collected. Lastly, statistical analysis was done by using one way ANOVA. The Home-made fertilizer were evaluated for phenolic, flavonoid and vitamin C where the Home-made fertilizer contain 46.95 mg catechol/L total phenolic, 10.7962 mg/L total flavonoid and 290.963 mg/L total vitamin C. Only for phenolic have significant different. The data show that these Home-made fertilizers are good sources of bioactive compound even in short period of time.