DETECTION OF ALKALOID FROM SILK, HUSK AND CORNCOB OF *Zea mays* (CORN) EXTRACT

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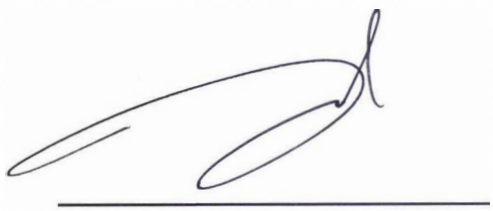
This Final Year Project Report entitled **"Detection of Alkaloid from Silk, Husk and Corncob of *Zea mays* (Corn)"** was submitted by Mohd Zahrul Radzi bin Razali, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by



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ABSTRACT

DETECTION OF ALKALOID FROM SILK, HUSK AND CORNCOB OF *Zea mays* (CORN) EXTRACT

Other than wheat and rice, corn also one of the most produced cereal crops in the world and has become the third most important cereal crops. The waste material of corn such as silk, husk and corncob is usually burned down and will cause environmental problems such as air pollution. Hence, this study provided a new knowledge to the people about the usefulness of the natural compound found in the waste material of corn that can be used in human health. This study was conducted to detect the presence of alkaloid in silk, husk and corncob of corn from three different locations using thin layer chromatography (TLC) technique. The samples were collected from corn plantation at Kuala Pilah, Bahau and Terachi then were sonicated and centrifuged with the ratio of 1:4 of chloroform and methanol. TLC was performed by using a drop of the supernatant obtained on the TLC plate at running solvent of 1:4, 2:3, 3:2 and 4:1. Unfortunately, the first result obtained failed due to spot was not detected using short wave UV lamp. Therefore, after sprayed with Vanillin reagent the TLC spot was successfully presented by using running solvent of 2:3. All samples from Bahau showed the best spot whereby it was much clearer and bigger followed by Terachi and Kuala Pilah. From the result, samples from Kuala Pilah showed the presence of unknown alkaloid A, B, C and D while samples from Bahau showed the presence of unknown alkaloid E, F, G and H and lastly, samples from Terachi showed the presence of unknown alkaloid E, D, I and J. Surprisingly, unknown F was suspected as 9-methoxycanthin-6-one, an antiovarian cancer alkaloid compound with the Rf value of 0.83 was detected from the husk of Bahau sample. In conclusion, qualitative analysis using TLC showed the presence of alkaloid in silk, husk and corncob of corn from 3 different locations which are Kuala Pilah, Bahau and Terachi. Therefore, future study can be pursued in determining the concentration of specific alkaloid within the silk, husk and corncob of corn by using High Performance Liquid Chromatography (HPLC) technique.