

**ANTIOXIDANT, TOXICITY AND PROXIMATE
ANALYSIS FROM SILK, HUSK AND CORNCOB OF
Zea mays (CORN)**

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ABSTRACT

ANTIOXIDANT, TOXICITY AND PROXIMATE ANALYSIS FROM SILK, HUSK AND CORNCOB OF *Zea mays* (CORN)

Zea mays also known as corn that can be grouped into monocotyledon plant and it can be classified as vegetables, fruits or even a whole grain which is can be beneficial towards human due to its contents. Literally, silk, husk and corncob are the parts of corn that are not be taken as consideration due to less application in any production. Therefore, the research was done to determine the antioxidant level in the silk, husk and corncob from *Zea mays*, to determine the toxicity level towards silk, husk and corncob from *Zea mays* and to identify the proximate analysis of silk, husk and corncob of *Zea mays*. The antioxidant was identified using the DPPH free radical scavenging activity with different concentration level such as 1000, 500, 400 ,300, 200, 100 µg/ml. The result showed that the highest antioxidant activity between silk, husk and corncob is silk with the value of 85.32% followed by husk (78.18%) and the lowest is corncob (77.61%) at the higher concentration towards 1000 µg/ml. Next, the toxicity test was identified by using the brine shrimp lethality test at different concentration of 3.125 mg/ml, 6.25 mg/ml, 12.5 mg/ml, 25 mg/ml, 50 mg/ml and 100 mg/ml. Lethal concentration (LC₅₀) of the silk is 10.16 mg/ml while for husk and corncob are 10.46 mg/ml and 10.37 mg/ml respectively. These samples considered as non-toxic due to higher LC₅₀ which is higher than 1 mg/ml. Lastly, the nutrient content of silk, husk and corncob was identified using proximate analysis. The silk has higher content of carbohydrate (77.23%) as compared to husk and corncob with respectively value of 73.41% and 71.38% respectively. Besides, towards the fat content, silk has the lowest content which is 1.51% compare to husk and corncob with the value of 8.09% and 9.15% respectively. Moreover, silk also contain with higher value of moisture (9.40%) and ash (11.01%) compare to husk for moisture (9.06%) and ash (9.29%) while for corncob the moisture content is 9.00% and for ash is 10.11%. Last but not least, protein content towards silk, husk and corncob was slightly lower compare to other sources of food with the value of 0.73%, 0.15% and 0.37% respectively. In conclusion, this study showed that silk, husk and corncob has the potential value to produce healthy food products since these samples have high antioxidant level, non-toxicity level and due to good proximate composition.