

**ANTIDIABETIC AND ANTIOXIDANT ACTIVITIES OF
METHANOLIC EXTRACTS FROM CORN HUSK**

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This Final Year Project Report entitled “**Antidiabetic and Antioxidant Activities of Methanolic Extracts from Corn Husk**” was submitted by Nur Shahirah binti Mohd Nasir in partial fulfilment of the requirement for the Degree of Bachelor of Sciences (Hons.) Applied Chemistry, in the Faculty of Applied Sciences, and was approved by

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ABSTRACT

ANTIDIABETIC AND ANTIOXIDANT ACTIVITIES OF METHANOLIC EXTRACTS FROM CORN HUSK

The number of Malaysians diagnosed with diabetes is increasing by year whom experiences side effects from the prescribed commercial medicine. Meanwhile, corn husks are one of the most generated agricultural by-products which being discarded as waste after its harvesting season. It shown a great potential in its biological properties, green energy, and materials industry. This study was aimed to investigate the *in vitro* antidiabetic activity of the methanolic extracts of corn husk by using α -amylase inhibitory assay and reducing sugar content, and antioxidant activity by using DPPH assay and total phenolic content. Extraction of corn husk by maceration method using methanol has yielded 0.5 % of extracts. The *in vitro* antidiabetic activities were determined based on α -amylase inhibitory activity exhibits an $IC_{50} = 2.77$ mg/mL which was compared to acarbose (positive control) with $IC_{50} = 1.43$ mg / mL and reducing sugar content using 3,5-dinitrosalicylic acid (DNSA) method (145.24 ± 5.78 mg GE/g). The methanolic extract of corn husk was further analysed for antioxidant activities using DPPH assay which exhibits an $IC_{50} = 41.03$ mg/mL and compared to ascorbic acid as positive control ($IC_{50} = 15.92$ mg/mL) and total phenolic content using Folin–Ciocalteu’s method (26.45 ± 0.17 mg GAE/g). The present result suggests that methanolic extracts of corn husk has the potential to be an alternative medicine for type 2 diabetes.

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