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Determination Of Oxidative Activity And Phenolic Content In
Hibiscus tiliaceus Of Matured Leaves, Young Leaves And Bark

Rusydina Rosidi

RESEARCH PROJECT submitted in partial fulfillment of the requirement
for the degree of Bachelor Food Science (Food Service and Nutrition).

Faculty Of Agrotechnology And Food Science
Universiti Malaysia Terengganu
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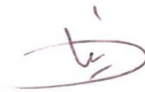
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DECLARATION

I hereby declare that this research project is based on my original work except for the quotation and summaries which have been duly acknowledge.



10th June 2007

RUSYDINA BINTI ROSIDI

UK 10399

Approved by,

10th June 2007

ENCIK MUHAMMAD KHAIRI BIN MOHD ZAINOL

(Supervisor)

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ABSTRACT

This study was conducted to evaluate the Antioxidant activity (AA) and phenolic compound of differences part of *Hibiscus tiliaceus* which was collected around mangrove area of Pantai Tok Jembal, Kuala Terengganu. The sample were *H. tiliaceus* matured leaves, young leaves and bark. Antioxidant activity (AA) of the methanol acetate was measured using ferric thiocyanate (FTC) method and 2,2-diphenyl -1-picrylhydrazyl (DPPH) method. Phenolic compound was measured by using follin-ciocalteu method. Methanol acetate were used as extracting solvent. Using FTC method, result show that matured leaves were the highest antioxidative activity but there were no significant different ($p < 0.05$) between all samples. However using DPPH method the result show that matured leaves were the highest antioxidative activity and there were significantly different ($p < 0.05$) between all the samples. For phenolic content, result show matured leaves as the highest compared to all the samples and there are also significantly different ($p < 0.05$) among the samples. Based on the result matured leaves of *H. tiliaceus* extract could be used as accessible source of natural antioxidant.

PENENTUAN AKTIVITI ANTIOKSIDAN DAN KANDUNGAN FENOLIK DALAM DAUN MUDA, DAUN TUA DAN KULIT POKOK *H. tiliaceus*

ABSTRAK

Kajian ini dijalankan bertujuan untuk menentukan aktiviti antioksida dan kandungan fenolik pada bahagian-bahagian yang berbeza bagi pokok *Hibiscus tiliaceus* yang diambil di sekitar kawasan paya di Pantai Tok Jembal, Kuala Terengganu. Sampel tersebut adalah daun muda, daun tua dan kulit *H. tiliaceus*. Aktiviti antioksida bagi metanol asetat ditentukan dengan menggunakan kaedah Ferric Thiosianat (FTC) dan kaedah 2,2-diphenyl-1-picrylhydrazyl (DPPH). Kandungan fenolik ditentukan dengan menggunakan kaedah Follin-Ciocalteu. Metanol asetat digunakan sebagai sebatian ekstrak. Dengan menggunakan kaedah FTC, keputusan menunjukkan daun matang mempunyai aktiviti antioksidan yang lebih tinggi tetapi terdapat perbezaan yang signifikan antara semua sampel. Selain itu bagi kaedah DPPH juga keputusan menunjukkan bahawa daun tua mempunyai aktiviti antioksida yang paling tinggi dan terdapat perbezaan yang signifikan antara semua sampel. Bagi kandungan fenolik, keputusan menunjukkan bahawa daun matang mempunyai nilai yang lebih tinggi berbanding semua sampel dan terdapat perbezaan yang signifikan antara sampel tersebut. Berdasarkan keputusan, ekstrak daun matang bagi *H. tiliaceus* boleh digunakan sebagai sumber antioksida semulajadi.