

**EFFECT OF SKY FRUIT'S SEED POWDER ON STABILITY OF
MUFFIN**

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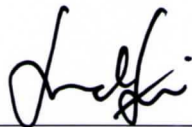
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This Final Year Project entitled “**The Effect of Sky Fruit’s Seed Powder on Stability of Muffin**” was submitted by Amir b Mohd Aisha Nuddin, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons) Food Science and Technology, in the Faculty of Applied Sciences and was approved by



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May Allah bless all of you

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ABSTRACTS

EFFECT OF SKY FRUIT'S SEED POWDER ON OXIDATIVE STABILITY OF MUFFIN

The aim of this study is to determine the effect of sky fruit's seed on stability of muffin. In this study the seeds of sky fruit or *Swietenia macrophylla* were used to analysed its effect on the quality of muffin. The sky fruit's seed were dried slightly and ground into a fine powder form. The powder was analysed for its total phenolic and saponin content. Analysis of oxidative stability was done on muffins added with the sky fruit's seed powder and acceptance test was also been done on the muffins. For the total phenolic content of the seed's powder analysed by using spectrophotometer and gallic acid standard curve. The result shows that the total phenolic compound in the powder was 482.47 ± 47.12 mgGAE/100 g. Saponin content was analysed using gravimetric method and the result obtained was 418.62 ± 68.71 mg/100 g saponin. Four formulation of muffin with no powder added as control, 50 ppm, 100 ppm and 500 ppm seed's powder was prepared. Acid value and peroxide value test been done for 12 days and rancimat test also been done on extracted muffin's oil. For all the analysis, the highest oxidative stability in the 500 ppm muffin. Acceptance test on the taste of muffin was conducted on 25 panellist shows that controlled formulation with no seed's powder added receive the highest acceptance test. For 50 ppm muffin, 20% of the panellists was able to detect the bitterness of the sky fruit powder in the muffin. Studies show that sky fruit's seed powder have positive effect on oxidative stability but its bitterness affects the muffin taste hence reduce the suitability of the powder to be used in food product.

ABSTRAK

KESAN SERBUK BIJI BUAH TUNJUK LANGIT TERHADAP KESTABILAN OKSIDATIF MUFIN

Kajian ini dijalankan untuk menilai jumlah kandungan komponen aktif di dalam serbuk biji buah tunjuk langit iaitu fenolik dan saponin. Analisis kestabilan oksidatif telah dijalankan ke atas minyak yang diestrak dari mufin. Seterusnya analisis penerimaan panel dijalankan untuk melihat tahap penerimaan panel-panel terhadap mufin yang berlainan formulasi menggunakan serbuk biji tunjuk langit. Biji buah tunjuk langit di hancurkan sehingga menjadi serbuk. Untuk menentukan jumlah kandungan fenolik yang terkandung, spektrofotometer telah digunakan dengan menganalisis lengkung piawai asid gallic. Didapati jumlah kompaun fenolik adalah sebanyak 482.47 ± 47.12 mgGAE/100 g. Kandungan saponin telah diuji dengan menggunakan kaedah gravimetrik dan didapati kandungan saponinnya adalah sebanyak 418.62 ± 68.71 mg/100 g. Empat formulasi muffin digunakan iaitu kawalan tanpa serbuk biji tunjuk langit, 50 ppm, 100 ppm, dan 500 ppm serbuk biji tunjuk langit. Nilai asid, nilai peroksida dan ujian racimat dilakukan untuk mengkaji kestabilan oksidatif estrak minyak dari mufin tersebut. Untuk ketiga-tiga ujian tersebut, kestabilan oksidatif paling tinggi dapat dilihat pada minyak dari formulasi mufin yang mempunyai 500 ppm kandungan serbuk biji tunjuk langit. Ujian tahap penerimaan telah dijalankan ke atas 25 panel menunjukkan mufin kawalan tanpa serbuk biji tunjuk langit menunjukkan tahap penerimaan yang paling tinggi. Tahap penerimaan mufin berformulasi 50 ppm menunjukkan sedikit kesan terhadap kadar penerimaan. 25% panelis dapat mengecam rasa pahit didalam mufin namun pada kadar yang masih diterima. Kajian menunjukkan serbuk biji buah tunjuk langit mempunyai kesan positif terhadap kestabilan oksidatif buah tunjuk langit tetapi rasa pahit buah tunjuk langit yang terkesan pada mufin mengurangkan kesesuaian penggunaannya di dalam produk-produk.