

DEVELOPMENT OF IIR FROM *Alga* *fuhiensis*

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DEVELOPMENT OF JAM FROM *Nypa fruticans*

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DECLARATION

I hereby declare that this research project is based on my original work except the quotations and summaries, which have been duly acknowledged.

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ABSTRACT

Nipah (*Nypa fruticans*) was made into jams, namely, Nipah Jams. Three variations of Nipah jams were developed with three different formulations. The differences were based on the amount of Nipah flesh added into the jam : Nipah jam with 40% Nipah flesh, 60% Nipah flesh and 80% Nipah flesh. This food product was subjected to physical and chemical analyses as well as comparative sensory evaluation. Sensory analysis shown that there has no significant difference ($p < 0.05$) for all attributes such as color, texture, spreadability, sweetness, sourness, taste and overall acceptance for sensory test for 3 formulations of jams with different Nipah percentages. This result shown that with increasing Nipah flesh in jams does not affect the score of preference much in jams. However, results revealed Nipah Jam with 60% of Nipah flesh was the most accepted (with 5.06 mean score). The colors of Nipah jam with 40% of Nipah flesh was more brighter and a bit more yellowish than other jam with 60% and 80% of Nipah flesh. For proximate analysis, moisture, carbohydrate, protein, fat and fiber content in Nipah jams increase as the percentage of Nipah flesh used in jams increased too. It was also found that a Nipah jam is low in protein, fat and fiber and high in moisture and carbohydrate. For physical analysis, significant different ($p < 0.05$) was shown only in pH and texture of the jam. The firmness of Nipah jams increased when the amount of Nipah flesh in jams increased too. Other physical properties such as total soluble solid and color of jam not affected by the percentage of Nipah flesh used in the jams.

PENGHASILAN JEM DARIPADA *Nypa fruticans*

ABSTRAK

Buah Nipah (*Nypa fruticans*) diproses kepada jem yang dipanggil Jem Nipah. Tiga Nipah jem yang berbeza dari segi formulasi dihasilkan. Perbezaan formulasi ini adalah berdasarkan jumlah buah Nipah yang digunakan dalam penghasilan jem : jem Nipah yang mengandungi 40% buah Nipah, 60% buah Nipah dan 80% buah Nipah. Analisis fizikal, kimia dan penilaian sensori dijalankan ke atas produk jem yang dihasilkan ini. Dalam penilaian sensori, tiada perbezaan yang signifikan didapati dalam semua atribut yang dinilai. Ini bermakna peningkatan buah Nipah dalam jem tidak banyak mempengaruhi nilai skor untuk penerimaan jem Nipah. Walaubagaimanapun, keputusan penilaian sensori telah menunjukkan jem Nipah dengan 60% buah Nipah paling digemari oleh panel. Dari segi warna jem, jem Nipah dengan 40% buah Nipah adalah lebih terang dan sedikit lebih kuning daripada jem dengan 60% dan 80% buah Nipah. Untuk mengetahui kesan peningkatan buah nipah ke atas nilai pemakanan jem ini, analisis kimia dijalankan juga ke atas buah Nipah. Jem Nipah mempunyai kandungan protein, lemak dan gentian yang rendah tetapi tinggi dalam kandungan air dan karbohidrat. Kandungan air, lemak, karbohidrat, protein dan gentian dalam jem meningkat apabila jumlah buah Nipah dalam jem bertambah. Kemantapan jem Nipah bertambah seiring dengan peningkatan buah Nipah dalam jem. Untuk kandungan pepejal larut dan warna jam Nipah tidak dipengaruhi oleh peningkatan kandungan buah Nipah dalam jam.