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L. merr) using response surface methodology (RSM)) / Noor
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Lihat Sebelah

DEVELOPMENT OF LEATHER FROM PINEAPPLE (*Ananas comosus L. merr*) USING RESPONSE SURFACE METHODOLOGY (RSM)

By

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RESEARCH PROJECT submitted in partial fulfilment of the requirement for the Degree of Bachelor of Food Science (Food Service and Nutrition)

FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE UNIVERSITI MALAYSIA TERENGGANU 2007

This project report should be cited as:

DECLARATION

I hereby declare that this thesis research project is based on my original work except the quotation and summaries which have been duly acknowledge. I also declare that is has not been previously or concurrently submitted for any degree at UMT or other institutions.

25th June 2007

NOOR AFZAN BINTI MOHAMED NAZI

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ABSTRACT

A response surface methodology (RSM) was used to optimize amount of pineapple puree and pectin in order to produce acceptable pineapple leather among consumer. Pineapple leather was developed by altering two independent variables namely amount of pineapple puree (305.00-534.00 g) and pectin (0.50-2.30 g). A total of fourteen combinations (including five repeated formulations which is formulation 1, 2, 3, 7 and 8) were chosen in random order according to central composite design (CCD) configuration for two factors. The effect of the amounts on brightness (L^*), redness (a^*), yellowness (b^*), hardness, stickiness, moisture, ascorbic acid, crude fiber, carbohydrate, colour, aroma, taste, chewiness and overall acceptability were studied by employing a second-order CCD. Based on surface and contour plots, optimum amount of pineapple puree and pectin for pineapple leather development were 455.92 g and 2.30 g, respectively.

PENGHASILAN GULUNGAN NANAS MENGGUNAKAN

RESPONSE SURFACE METHODOLOGY (RSM)

ABSTRAK

Response Surface Methodology (RSM) telah digunakan untuk penentuan kandungan optimum puri nanas dan pektin dalam menghasilkan gegulung nanas yang dapat diterima di kalangan pengguna. Gegulung nanas dihasilkan dengan mengubahsuai dua pemalar iaitu kandungan puri nanas (305.00-534.00 g) dan pektin (0.50-2.30 g). Sejumlah empat belas kombinasi (termasuk lima formulasi berulang iaitu formulasi 1, 2, 3, 7, dan 8) telah dipilih secara rawak mengikut tatarajah *central composite design* (CCD) untuk dua faktor. Kesan kandungan ke atas kecerahan (L^*), kemerahan (a^*), kekuningan (b^*), kekerasan, kelekitan, kelembapan, asid askorbik, gentian kasar, karbohidrat, warna, aroma, rasa, kekenyalan dan penerimaan keseluruhan dianalisis dengan menggunakan *second-order* CCD. Berdasarkan plot permukaan dan kontor, kandungan optimum bagi puri nanas dan pektin untuk penghasilan gegulung nanas adalah masing-masing 455.92 g dan 2.30 g.