DEVELOPMENT OF HIGH PROTEIN

FACULTY OF BIOTECHNOLOGY AND FOOD SCIENCES
2008

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Pusat Pembelajaran Digital Sultanah Nur Zahirah (UMT)
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DEVELOPMENT OF AKOK PREMIX

By
Aznizah bt Ahmad

Research Report submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Food Science (Food Service and Nutrition)

Department of Food Science
FACULTY AGROTECHNOLOGY AND FOOD SCIENCE
UNIVERSIT MALAYSIA TERENGGANU
2008

BORANG PP3

FAKULTI AGROTEKNOLOGI DAN SAINS MAKANAN
UNIVERSITI MALAYSIA TERENGGANU

PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

DEVELOPMENT OF AKOK PREMIX

oleh AZNIZAH BT AHMAD, No.Matrik UK 11234

telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan SAINS MAKANAN

sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda SAINS MAKANAN (PERKHIDMATAN MAKANAN DAN PEMAKANAN),

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PENGAKUAN DAN PENGESAHAN LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk Development of Akok Premix oleh Aznizah binti Ahmad, No. Matrik UK11234 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukan kepada Jabatan Sains Makanan sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains Makanan (Perkhidmatan Makanan dan Pemakanan), Fakulti Agroteknologi dan Sains Makanan, Universiti Malaysia Terengganu.

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DECLARATION

I hereby declare that the work in this thesis is my own except for the quotations and summaries in which have been duly acknowledge.

Signature : .....

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Date : 21/4/2009

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ABSTRACT

Akok was converting to Akok Premix which is much easier to prepare by modern technique instead of long time taken with traditional method. Five formulations were produced and the manipulated variable is the percentage of wheat flour and rice flour. It was the Formulation 1 (100% rice flour), Formulation 2 (80% rice flour, 20 % wheat flour), Formulation 3 (50% rice flour, 50% wheat flour), Formulation 4 (20% rice flour, 80% wheat flour) and Formulation 5 (100% wheat flour). The chemical analysis that has been tested on the product is the determination of moisture, protein, fat, carbohydrate, ash and fiber. There was no significant difference ($p>0.05$) for moisture, protein and ash but it has a significant difference ($p<0.05$) for fat content. The physical analysis tested was the texture and color analysis. The textured was measured by compression test with the value of g/force indicating the softness of the product. There was a significant difference ($p<0.05$) among the formulation. The color was measured the value of L^*, a^* and b^*. There was no significant difference ($p>0.05$) for L^* and a^* value but has significant difference for b^* value. The sensory evaluation test shows that most of the panel has greater preferences of Akok Premix made from Formulation 4 compared with other formulation and Control due to the higher acceptance of odor, softness, sweetness and overall acceptance.

ABSTRAK

Akok Premix dihasilkan bagi memudahkan pembuatan Akok dengan teknik lebih moden iaitu dengan menggunakan oven konvensional sebagai menggantikan teknik tradisional yang mengambil masa lebih lama. Lima formulasi telah dihasilkan dan pemboleh ubah yang dimanipulasikan adalah peratusan (%) tepung gandum dan tepung beras yang dicampurkan. Formulasi tersebut adalah Formulasi 1 (100% tepung beras), Formulasi 2 (80% tepung beras, 20% tepung gandum), Formulasi 3 (50% tepung beras, 50% tepung gandum), Formulasi 4 (20% tepung beras, 80% tepung gandum) dan Formulasi 5 (100% tepung gandum). Analisis kimia yang dijalankan ke atas produk adalah penentuan kelembapan, protein, lemak, karbohidrat, abu dan serat. Tidak terdapat perbezaan bererti ($p>0.05$) bagi kelembapan, protein dan abu tetapi terdapat perbezaan bererti ($p<0.05$) bagi kandungan lemak. Analisis fizikal yang dijalankan adalah analisis tekstur dan warna. Tekstur diukur dengan menggunakan ujian kemampatan dan diukur mengikut nilai (g/daya) yang menunjukkan kelembutan produk. Terdapat perbezaan yang bererti ($p<0.05$) di antara formulasi manakala analisis warna dijalankan dengan mengukur nilai L^*, a^* dan b^*. Tidak terdapat perbezaan bererti ($p>0.05$) bagi nilai L^* dan a^* tetapi terdapat perbezaan bererti bagi nilai b^*. Ujian penilaian sensori menunjukkan bahawa panel-panel lebih menyukai Akok Premix daripada Formulasi 4 berbanding dengan formulasi-formulasi lain dan Rujukan berikutan dengan kadar penerimaan yang tinggi bagi bau, kelembutan, kemanisan serta penerimaan keseluruhan.