THE EFFECT OF AGAR FLOUR INCORPORATION ON THE QUALITY OF YELLOW ALKALINE NOODLE

NADHIRAH BINTI PISLEE

FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE

UNIVERSITI MALAYSIA TERENGGANU

2012

LP 34 FASM 1 2012

The effect of atta flour incorporation on the quality of yellow alkaline noodle / Nadhirah Roslee.

Lihat Sebelah

THE EFFECT OF ATTA FLOUR INCORPORATION ON THE QUALITY OF YELLOW ALKALINE NOODLE

By

Nadhirah binti Roslee

Research Report submitted in partial fulfilment of the requirements for the degree of Bachelor of Food Science (Food Technology)

DEPARTMENT OF FOOD SCIENCE

FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE

UNIVERSITI MALAYSIA TERENGGANU

2012

ENDORSEMENT

The project report entitled **The Effect of Atta Flour Incorporation on The Quality of Yellow Alkaline Noodle** by **Nadhirah binti Roslee**, Matric No. **UK16897** has been reviewed and corrections have been made according to the recommendations by examiners. This report is submitted to the Department of Food Science in partial fulfillment of the requirement of the degree of Food Science (Food Technology), Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu.

.....

(YUSNITA BINTI HAMZAH)

Main supervisor

DR. YUSNITA HAMZAH
Lecturer
Department of Food Science
Faculty of Agrotechnology and Food Science
Universiti Malaysia Terengganu.

Date : 9/2/2012

DECLARATION

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

Signature : .....

Name : NADHIRAH BINTI ROSLEE

Matric No. : UK16897

Date : 8 FEBRUARY 2012

ACKNOWLEDGEMENT

First of all, special thank to my supervisor, Dr. Yusnita bt. Hamzah who willingly spend a lot of time to teach, guide and correct me along this project. Dr. Yusnita had sacrificed her time to brief with me and give me suggestion to improve my project. Besides that, I would like to thank to all panels that involved in proposal, progress and final presentation for my final year project. Special thanks to all of them caused give me suggestion and correct my mistake.

In addition, I would like to thank to lab staff from MTKM, MPM and MSM that help and advice me during I performed my project analysis.

Special thank to my beloved family members, friends and course mate that keep supporting and help me along my project progression. I also would like to thank to all panellist that spend their time to evaluate my product during sensory evaluation test.

ABSTRACT

Studies on the incorporation of atta flour in the production of yellow alkaline noodles have been conducted. Five formulations of yellow alkaline noodle were developed with different proportion of wheat flour and atta flour percentages i.e. 100:0, 87.5:12.5, 75:25, 62.5:37.5 and 50:50. The physicochemical properties of yellow alkaline noodle incorporation with atta flour were evaluated including colour, elasticity, hardness, chemical composition and calorie content. Acceptability of the final products was determined through sensory analysis for colour, surface smoothness, elasticity, hardness, taste and overall acceptance attributes. For physical properties, hardness of the noodles was not affected by atta flour addition. However, only formulation with the highest proportion of atta flour (50:50) showed significant high elasticity properties as compared to others ($p \leq 0.05$). Formulation with 50% atta flour incorporation exhibited significant high yellowness property as compared to control (0% atta flour). Incorporation of atta flour increased protein and crude fiber content of the noodles. However, no effects were shown on moisture, fat, ash, carbohydrate and calorie content. Incorporation of atta flour in the formulation showed similar acceptance level for surface smoothness, elasticity, taste and overall acceptance of yellow alkaline noodle. Formulation with 25% and 37.5% of atta flour addition obtained higher score for hardness attribute (4.5 ± 1.4 and 4.4 ± 1.0) compared to control (3.3 ± 1.5) ($p \leq 0.05$). On the other hand, lower score of colour attribute was gained by all formulations with atta flour addition. As a conclusion, formulation with 25% of atta flour incorporation was chosen as the most accepted formulation as it obtained similar acceptance level for most of the sensory attributes and higher hardness acceptability as compared to control (0% atta flour).

ABSTRAK

Kajian mengenai penambahan tepung atta dalam pembuatan mi kuning telah dijalankan. Lima formulasi mi kuning telah dihasilkan dengan peratusan tepung gandum dan tepung atta yang berbeza (100:0, 87.5:12.5, 75:25, 62.5: 37.5 dan 50:50). Ciri–ciri fizik-kimia mi kuning dengan penambahan tepung atta telah dinilai dari segi warna, keanjalan, kekerasan, komposisi kimia dan kandungan kalori. Penerimaan produk akhir telah ditentukan melalui analisis deria berdasarkan warna, kelicinan permukaan, kekerasan dan penerimaan keseluruhan. Bagi sifat–sifat fizikal, kekerasan mi tidak terjejas dengan penambahan tepung atta. Walaubagaimanapun, hanya formulasi dengan kandungan tepung atta yang tertinggi (50:50) menunjukkan sifat keanjalan yang ketara lebih tinggi berbanding dengan yang lain ($p \leq 0.05$). Formulasi dengan penambahan 50% tepung atta mempamerkan sifat kekuningan yang berbeza secara bererti berbanding dengan kawalan (0% tepung atta). Penambahan tepung atta meningkatkan kandungan protein dan serat kasar di dalam mi kuning. Walaubagaimanapun, tiada kesan yang ditunjukkan terhadap kandungan kelembapan, lemak, abu, karbohidrat dan kalori. Penambahan tepung atta di dalam formulasi pembuatan mi kuning menunjukkan tahap penerimaan yang sama bagi attribut kelicinan permukaan, keanjalan, rasa dan penerimaan keseluruhan. Formulasi dengan penambahan tepung atta sebanyak 25% dan 37.5% memperolehi skor yang lebih tinggi untuk sifat kekerasan (4.5 ± 1.4 and 4.4 ± 1.0) berbanding dengan kawalan (3.3 ± 1.5) ($p \leq 0.05$). Namun begitu, skor lebih rendah bagi attribut warna telah diperolehi untuk semua formulasi dengan penambahan tepung atta. Secara kesimpulannya, formulasi dengan 25% tepung atta telah dipilih sebagai formulasi yang paling diterima kerana menerima skor yang sama bagi kebanyakan attribut dan lebih tinggi penerimaan attribut kekerasan berbanding dengan kawalan (0% tepung atta)