DEVELOPMENT OF OYSTER MUSHROOM
(*Pleurotus ostreatus*) NUGGET

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FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCES
UNIVERSITI MALAYSIA TERENGGANU
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Lihat Sebelah

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DEVELOPMENT OF OYSTER MUSHROOM (*Pleurotus ostreatus*)
NUGGET

By
CHING YOK SING

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

Department of Food Science
FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
UNIVERSITY MALAYSIA TERENGGANU
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PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk:

Development of Oyster Mushroom (Pleurotus ostreatus) Nugget

oleh............CHING YOK SING......................, No.Matrik ...UK11509....

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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FINAL REPORT ENDORSEMENT FORM

It is admitted and certified that research report entitled Development of Oyster Mushroom (*Pleurotus ostreatus*) Nugget by CHING YOK SING, UK11509 had been checked and all suggested correction had been done. This report is submitted for Food Science Department in partial fulfillment of the requirements for degree of Bachelor of Food Science (Food Service and Nutrition), Faculty of Agrotechnology and Food Science, University Malaysia Terengganu.

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DECLARATION

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

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ABSTRACT

This study objective was to develop nugget made from oyster mushroom due to the perishable nature of raw oyster mushroom. In this study, physical and chemical analysis and also sensory evaluation were determined. In physical analysis, in terms of texture increasing oyster mushroom composition in nuggets made the nuggets softer. For colour profile, only sample with 40% oyster mushroom showed some deviation, others including control chicken nugget were not significantly different. There were almost no effects in terms of cooking lost in nugget with increased in oyster mushroom percentage. The fried formulated nuggets started to shrink soon after 60% of oyster mushroom was used. For chemical analysis, moisture and crude fiber percentages were found to increase significantly when percentage of oyster mushroom increased and they were also significantly higher than control chicken nugget. Increased oyster mushroom percentage did not seem to affect overall ash and crude fat content with control sample had the highest percentage on both components. The increase of percentage in oyster mushroom caused the crude protein and carbohydrate percentage to fall gradually due to the decreased of wheat flour percentage. Control nugget had the highest percentage of crude protein but relatively low in carbohydrate. For sensory evaluation, results showed that in all attributes (colour, odour, texture, crispiness, oiliness, taste and overall acceptance) evaluated, control sample had the highest mean score for almost all the attributes, but sample 50% and 60% were almost as acceptable as control sample in almost all attributes.

ABSTRAK

Objektif kajian ini adalah untuk menghasilkan nuget yang diperbuat daripada cendawan tiram disebabkan oleh keadaan cendawan tiram segar yang mudah rosak. Dalam kajian ini, penentuan fizikal dan kimia dan penilaian deria telah dijalankan. Dalam penentuan fizikal, dari segi tekstur, peningkatan komposisi cendawan tiram dalam nuget menyebabakan nuget menjadi semakin lembut. Bagi penentuan warna, hanya sampel dengan 40% cendawan tiram menujukan perbezaan dan sampel lain termasuk sampel kawalan tidak mempunyai perbezaan yang signifikasi. Peningkatan peratusan cendawan tiram dalam nuget tidak memberi kesan yang signifikan dalam kadar kehilangan selepas masak. Nuget cendawan tiram yang telah digoreng mula mengecut selepas 60% cendawan tiram digunakan. Untuk bahagian penentuan kimia, peratusan kelembapan dan gentian kasar meningkat dengan signifikasi apabila peratusan cendawan tiram meningkat dan kedua-dua nilai ini adalah lebih tinggi dan signifikasi daripada nuget cendawan tiram. Secara keseluruhannya, peningkatan peratusan cendawan tiram dalam nuget tidak memberi perbezaan yang signifikan dalam peratusan abu dan lemak kasar. Sampel kawalan mempunyai peratusan abu dan lemak kasar yang paling tinggi antara semua sampel. Peningkatan cendawan tiram telah menyebabkan penurunan beransur-ansur dalam peratusan protein dan karbohidrat disebabkan oleh penurunan dalam peratusan tepung gandum. Nuget kawalan mempunyai peratusan yang paling tinggi dalam protein dan peratusan yang rendah dalam karbohidrat. Untuk penilaian deria, keputusan menunjukkan dalam semua atribut (warna, bau, tekstur, kerangupan, berminyak, rasa dan penerimaan keseluruhan), sampel kawalan mendapat nilai min yang paling tinggi untuk hampir semua atribut tetapi sample 50% dan 60% juga mendapat nilai yang hampir sama dengan sample kawalan dalam hampir semua atribut.