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Lihat Sebelah

DEVELOPMENT OF EEL BALL FROM EEL (*Monopterus albus*)

By

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

FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
UNIVERSITI MALAYSIA TERENGGANU (UMT)
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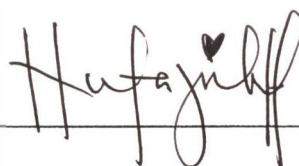
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DECLARATION


I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any degree at UMT or other institutions.



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ABSTRACT

'Belut sawah' or swamp eel (*Monopterus albus*) still need more research and studies due to its medical value and could be introduced for commercialize. On the other hand, fish ball are those product based on fish or seafood that becoming popular among Malaysian. The purposes of these studies was to determine the proximate value, physical properties and sensory evaluation of fish ball which made with eel flesh (*Monopterus albus*) to meet the acceptance level. Eel flesh, wheat flour, sodium tripolyphosphate, sugar and salt was blended together with specific percentage ratio to prepared 4 formulation of eel ball; formulation 1 (100% eel flesh), formulation 2 (90% eel flesh), formulation 3 (80% eel flesh) and formulation 4 (70% eel flesh). All the research data was analyzed with SAS Programme (1997) to determine variance (ANOVA) and to compare mean with Duncan's Multiple Range Test (DMRT). Due to these study conducted, result from moisture, ash, fat and protein content depend on the percentage ratio of eel flesh and wheat flour added. For the physical properties, eel ball color from formulation 4 was brightness then formulation 1. Eel flesh and wheat flour percentage ratio affected the value of color analysis whereas the higher percentage of eel flesh, the brightness of eel ball was decreased. Overall, eel ball that has been produced are greyish in color. No significant different ($p>0.05$) among eel ball color. For the texture of eel ball, higher percentage eel flesh would make eel ball tougher. From 60 panelists that involved in affective sensory evaluation that test on attribute such as color, smell, texture, taste, muddy flavor and overall acceptance, most of them likes eel ball from formulation 4 that contains 70% eel flesh.

PEMBANGUNAN PRODUK BEBOLA BELUT DARI BELUT (*Monopterus albus*)

ABSTRAK

Belut sawah (*Monopterus albus*) memerlukan kajian dan penyelidikan yang berterusan mengenai kelebihannya terhadap kesihatan supaya dapat diperkenalkan untuk tujuan komersil. Kajian ini dijalankan untuk mengetahui nilai proksimat, ciri fizikal seperti warna dan tekstur dan ciri-ciri sensori yang dapat diterima oleh panel terhadap bebola belut (*Monopterus albus*) yang dihasilkan. Campuran isi belut, tepung gandum, sodium tripolyphosphate, gula dan garam yang dikisar, disediakan mengikut nisbah tertentu bagi menghasilkan empat formulasi bebola belut (*Monopterus albus*) iaitu formulasi 1 (100% isi belut), formulasi 2 (90% isi belut), formulasi 3 (80% isi belut) dan formulasi 4 (70% isi belut). Semua data hasil kajian dianalisis menggunakan perisian SAS melalui analisis varian (ANOVA) dan Duncan's Multiple Range Test (DMRT). Dari kajian yang dijalankan, didapati keputusan bagi kandungan kelembapan, abu, lemak dan protein dipengaruhi oleh peratus campuran isi belut dengan tepung gandum mengikut nisbah tertentu. Bagi ciri fizikal yang dikaji, warna bebola belut (*Monopterus albus*) dari formulasi 4 lebih cerah berbanding dari formulasi 1. Peratus campuran isi belut dan tepung gandum mempengaruhi cerapan warna dimana semakin tinggi peratusan isi belut semakin kurang kecerahan warna bebola belut. Secara keseluruhannya, bebola belut (*Monopterus albus*) yang dihasilkan berwarna kelabu keputihan. Tiada perbezaan yang significant diantara warna kesemua formulasi bebola belut (*Monopterus albus*). Tekstur bebola pula semakin keras dengan penurunan peratusan isi belut yang digunakan. Daripada 60 orang panel yang menjalani ujian afektif penialaian deria yang menguji atribut warna, bau, tekstur, rasa, rasa asing dan penerimaan keseluruhan, didapati hampir keseluruhan panel menyukai bebola belut (*Monopterus albus*) dari formulasi 4 (70% isi belut).