

EFFECTS OF COGNATE AND NON-COGNATE
CONSECUTIVE FEEDINGS ON GROWTH AND
REPRODUCTION OF *Chironomus tentans*
(*Chironomus tentans*) FISH

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UNIVERSITY OF APPLIED TECHNOLOGY AND FOOD SCIENCE
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**EFFECTS OF COCONUT MEAL ON NUTRITIONAL
COMPOSITION, PHYSICAL AND SENSORY
EVALUATION ON AFRICAN CATFISH
(*Clarias gariepinus*) FILLET**

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DECLARATION

I hereby declare that this research project is based on my original work except for quotations and summaries which have been duly acknowledged.

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ABSTRACT

This study conducted to determine the effect of coconut meal on nutritional composition on African catfish, *Clarias gariepinus* fillet. Three samples and one control were prepared. The difference among these samples were the ratio of soybean meal and coconut meal that been fed to the African catfish. Three major analyses that were conducted which were the chemical analysis, physical analysis and sensory evaluation. For proximate analysis, crude protein and crude fat had showed a higher percentage (64.25% and 25.99%) of content by the Diet C catfish's fillet which was the higher coconut meal given. The highest free amino acids were also from the Diet C sample but for Diet A and Diet B, the contents were lower than the control sample's. Then, for the texture analysis, there was no significant different among samples and both middle and front part of the fillet for gel strength attribute. But when the fillets wee cooked, only the control sample was not affected and showed no significant different ($p < 0.05$) among samples and both parts. L^* , a^* , and b^* were the parameters used for color determination. Both raw and cooked (fried) catfish's fillet was through the same analysis. For consumer acceptance, the Diet B sample had the highest mean scores for 3 attributes; color (4.92 ± 0.45), texture (4.75 ± 0.35) and overall acceptance (4.48 ± 0.30). For control sample, the highest mean scores were from the attributes of taste (4.33 ± 0.57) and oily (3.90 ± 0.14).

KESAN-KESAN *COCONUT MEAL* KEPADA KOMPOSISI NUTRIEN FILLET IKAN KELI AFRIKA (*Clarias gariepinus*).

¹ABSTRAK

Kajian yang dijalankan adalah mengenai kesan-kesan *coconut meal* kepada komposisi nutrien fillet ikan keli Afrika, *Clarias gariepinus*. Terdapat empat sampel berbeza termasuk satu sampel kawalan. Perbezaan antara sampel-sampel ini adalah nisbah pellet kacang soya dan pellet kelapa yang diberi makan kepada ikan keli Afrika ini. Terdapat 3 analisis utama yang dijalankan. Analisis kimia, fizikal dan penilaian sensori. Bagi analisis proksimat, protein kasar dan lemak kasar Diet C menunjukkan peratusan yang lebih tinggi berbanding kawalan. Kandungan asid amino bebas yang paling tinggi juga dicatatkan oleh Diet C tetapi bagi Diet A dan Diet B, kandungannya lebih rendah dari kawalan. Manakala bagi penentuan tekstur pula, tiada beza signifikan ($p < 0.05$) antara semua sampel dan kedua-dua bahagian tengah dan depan fillet ikan keli Afrika bagi atribut kekuatan gel. Tetapi apabila fillet ini dimasak, hanya kawalan yang tidak memberi kesan dan tidak menunjukkan sebarang beza signifikan ($p < 0.05$) antara sampel dan kedua-dua bahagian. L^* , a^* , dan b^* adalah parameter yang digunakan untuk mengukur kecerahan, kemerahan dan kekuningan pada setiap sampel. Kedua-dua fillet mentah dan dimasak melalui analisis yang sama. Bagi penerimaan pengguna, sampel Diet B memperoleh min skor yang tertinggi dalam tiga atribut; warna (4.92 ± 0.45), tekstur (4.75 ± 0.35) and penerimaan keseluruhan (4.48 ± 0.30). manakala kawalan pula mendapat dua min skor tertinggi iaitu bagi atribut rasa (4.33 ± 0.57) dan berninyak (3.90 ± 0.14).